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# RECORDS OF THE PAST

REV. HENRY MASON BAUM, D.C.L.
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FREDERICK BENNETT WRIGHT
ASSISTANT EDITOR

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# RECORDS OF THE PAST

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Volume II

# RECORDS OF THE PAST

Part I

REV. HENRY MASON BAUM, D. C. L.
Editor

***

MR. FREDERICK BENNETT WRIGHT
Assistant Editor

JANUARY, 1903

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BABYLON AND ITS THREE TOWERS

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# RECORDS OF THE PAST

VOL. II PART I

JANUARY, 1903

## EXCAVATION OF THE RUINS OF BABYLON

THE name of Babylon, like that of Jerusalem, is familiar to all the civilized world. It has occupied a prominent place in the religious and secular history of the world. To excavate the ruins of the once imperial city is an undertaking the magnitude of which can hardly be realized by even those whose lives have been spent in the work of historical research. It was through the influence of the German Emperor that permission was obtained from the Turkish government to begin a systematic excavation of the ruins of that world-renowned city, the very name of which carries one back to the remote past and down through the struggle of nations until the time when the life of Alexander the Great came to an end in the palace erected by its great builder. So important is the work undertaken by the German Oriental Society that we deem it expedient to give in great detail the organization and beginning of the work. In each monthly issue of RECORDS OF THE PAST we shall devote as much space as possible to the progress of the work until its completion. Our first article may be considered the preliminary report, as officially published by the German Oriental Society. The following outline sketch of the history of ancient Babylonia will serve as an introduction.

### HISTORY OF ANCIENT BABYLONIA

Like Egypt, situated on a large river whose waters could be used for irrigation, and in a climate favorable for the production of several crops a year, the district of Babylonia from the earliest time naturally drew to

itself a large population, whose prosperity made possible the development of a high degree of civilization. According to the Babylonian legends the first of their monarchs was Aloros. His principal successors up to the time of the Deluge were: Amelon, who possibly came from Sippara; Daônus or "mighty one"; Otiartes, more correctly Opartes the "servant of the setting sun," who was the ninth in the line of successors; and lastly Xisuthros, "the hero of the Deluge."

After the Deluge, Xisuthros and his wife "were translated to the region of the blessed beyond Datilla, the river of death." Other colonists came into the region and under the leadership of Etana established a city in which they attempted to build a tower that would reach the sky. The site of this city was the same as that occupied by Nebuchadrezzar's famous capital,—Babylon.

The next period of mythical history abounds in tales of the wars of the gods, "Etana, Bel, Prometheus and Ogygos, against Kronos"; the "adventures of the giant Ner"; the goddess Istar who came to earth to "woo the sons of men"; Tammuz the beautiful Sun-god, and Gisdhubar the prototype of the Greek Herakles.

Among the earlier prominent rulers who made their capital at Agadé, and of whom we have definite knowledge, were Sargon I, the "Babylonian Solomon," and his son Naram-Sin, who were great patrons of learning. According to Nabonidos their reign ended 3200 years before his time, viz, 3750 B.C.

We have more definite information concerning Babylonian history from contemporaneous records of the time of "Ur-Gur or Ur-Bagas King of Ur." He ruled over Accad and Sumer and constructed in Ur a temple to the Moon-god, and in Erech, and Nipur, Larsa and other cities erected great temples which were dedicated to the sun, Istar and Bel. An idea of the great building energy of this ruler can be gained from the estimate Sayce makes as to the number of bricks used in the temple of the Sun-god. The mound covering the ruins of this temple is "200 feet square and 100 feet high, so that above 30,000,000 of bricks must have been used in building it." According to Nabonidos, Ur-Gur lived 700 years before Khammurabi, which would make the date of his rule about 2700 B.C. The successor to Ur-Gur ruled but a short time, after which the kingdom broke up into small independent states, Accad, which included Babylonia, remaining under a Semitic dynasty. At this time Babylon, although of secondary importance, was slowly gaining in power. The first dynasty of Babylonia was established about 2394 B.C., but it was not till 2000 B.C. that the power of Babylon as a capital began to be felt. At this time Khammurabi was reigning over the whole of Babylonia, with Babylon as his capital.

Babylon consisted of the two Accadian towns of *Ka-dimirra,* 'the gate of God,' and *Din-Tir,* 'the seat of the tree' (of life), on opposite sides of the Euphrates, which, after the Semitic conquest, were united into one, known as Bab-ili or Bebel, the Semitic translation of *Ka-dimirra.* The city was made the capital of the country for the first time by Khammurabi, a position it retained up to its entire destruction in B.C. 690 by Sennacherib, who choked the stream of the Arakhtu with its ruins. Rebuilt by Esar-haddon, it soon recovered its old importance, and after being united with its suburb, Barzip or Borsippa, became the center of the empire of Nebuchadrezzar.*

**The Ancient Empires of the East.* Sayce, p. 96.

In describing the completeness of its destruction Suzub says that he "pulled down, dug up, and burned with fire the town and palaces, root and branch, destroyed the fortress and double wall, the temple of the gods and the towers of brick and threw the rubbish into the Araxes." On this same spot, however, grew up the great city whose ruins have attracted the attention of travelers from the time of Herodotus and Ctesias to the present. According to the observation of these early historians the outer city walls inclosed an area of between 100 and 200 square miles. Herodotus estimated it at 200 and Ctesias at 100. The latter estimate corresponds closely with those of Pliny, Strabo, and Clitarchus and so may be considered as fairly accurate. In comparison with our cities of to-day, taking the smaller estimate, that of Ctesias, we find that it covered an area three times as great as Chicago. This vast enclosure was not solidly built up but had 9/10 devoted to parks and gardens.

After the fall of Babylon, Babylonia was ruled by an Assyrian viceroy, Esàr-haddon, the favorite son of Sennacherib, who in 680 B.C. began the restoration of the walls and temples of Babylon. He was succeeded by different Assyrian viceroys until 625 B.C., when Nabopolassar, taking advantage of the decline of the Assyrian power, secured its independence shortly after which the power of the Assyrian Empire fell and its domain was divided between Media and Babylon. The eldest son of Nabopolassar, Nebuchadrezzar, coming to the throne in 604, "found himself the undisputed lord of West Asia." "Palestine was coerced in 602," and Jerusalem destroyed in 587, opening the way for the conquest of Egypt which was undertaken 20 years later. It was at this time, when Babylon was enriched by the spoils of her foreign conquests, that the great palace, now represented by the mound of Kasr; the 3 walls of the city; the temple of Bel which was "roofed with cedar overlaid with gold"; the temple of 7 lights dedicated to Nebo besides libraries and other temples, were constructed.

The wall which surrounded Babylon was surmounted by 250 towers, the spaces between which according to Ctesias "were broad enough to allow a four-horse chariot to turn."

The clay dug from the moat had served for the bricks of the wall, which was pierced with 100 gates, all of brass with brazen lintels and posts. The two inner inclosures were faced with colored brick and represented hunting-scenes. Two other walls ran along the banks of the Euphrates and the quays with which it was lined, each containing 25 gates, which answered to the number of the streets they led into. Ferryboats plied between the landing-places of the gates; and a movable drawbridge (30 feet broad), supported on stone piers, joined the two parts of the city.

It is the ruins of these buildings that are now being excavated with such marvelously interesting results.

Nebuchadrezzar's long and successful reign lasted 42½ years. His son who followed him reigned for a little over 4 years, and was succeeded by his son a mere boy who reigned but 4 months, after which the succession went to Nabu-nahid or Nabonidos, who belonged to a different family. He reigned for 7 years until the overthrow of the Babylonian Kingdom by Cyrus, a chief of the Susians who claimed descent from the Aryan clan of Akhaemenids. Cyrus attacked and conquered Media, taking advantage of rebellions and revolts in the Babylonian Kingdom and tampering with the disaffected elements of the population. In 539 B.C. Nabonidos fled without fighting, but was later captured and put in chains. On October 3

MOUND OF BABIL

Cyrus entered Babylon in triumph, thus ending the independence of the city. In 521 the city tried to recover its independence under the leadership of Nadintu-Bel, but after a siege of two years Darius, leading the Persians, captured the city "by diverting the Euphrates from its channel and passing by night along the river bed entered it through an unguarded gate." The last attempt for independence was in 515, at which time the city was taken after a short siege, and the leader Arakhu executed.

## PRELIMINARY REPORT OF THE BABYLONIAN EXPEDITION OF THE GERMAN ORIENTAL SOCIETY

AT the meeting of the Directors of the German Oriental Society which was held on May 15, 1898, in the Library room of the Oriental Seminary at Berlin, under the presidency of His Excellency, Admiral Hollman, Secretary of State; Privy Counsellor Prof. Dr. Edward Sachau made a preliminary report on his archæological tour of exploration in Babylon and Assyria during the winter of 1897 and 1898. He had been directed to make this journey by His Excellency Dr. Bosse, Minister of Ecclesiastical, Educational and Medical Affairs, on October 23, 1897, and had assigned to him Dr. Koldewey, instructor in the school of architecture at Görlitz, for the purpose of passing judgment on matters relating to the history of architecture and art and settling technical questions. The expedition left Berlin on the 27 and Marseilles on the 31 of October, 1897, on the mail steamship, Saghalien, of the Messagerés Maritimes, bound for East Asia. It was not advisable to take the usual and shortest sea route to Babylon and Bagdad via Aden, Bombay, Kurrache and Bassorah, inasmuch as, by order of the Turkish government, all persons coming from Bombay,

which was infected by the plague, were subject to a 14 days' quarantine upon arriving in Babylon. Therefore, after having left the French vessel at Aden and awaited the arrival of an English freight steamship, the travelers made a 15 days' voyage through the Indian Ocean around the Eastern corner of Arabia to Mukat, thence to the Persian ports of Bender, Abbas and Buschir, and finally into the mouth of the united Euphrates and Tigris—the Schatt Elarab, to Bassorah, the great port of Babylon. The mighty Schatt Elarab, navigable for sea vessels of all kinds, is lined on both shores with thick forests of date palm which continue uninterruptedly for a long distance up the river. From Bassorah, the Arabian Venice, whose main street is a *Canale Grande* arched over with high palms, Europe and America are supplied with dates, which are represented here by numerous species. There is an English warship permanently stationed off the Schatt Elarab, while the German naval vessel *Cormoran* showed the German flag there several years ago.

The plan of reaching Southern Babylon or the most southern part of the flat country situated between the Euphrates and Tigris from Bassorah had to be abandoned as unfeasible for various reasons. The travelers therefore proceeded up the river to Bagdad on an English Tigris steamer in company with Mr. Richarz, imperial German Consul at Bagdad, who had received them upon their landing at Bassorah. Upon arriving at Bagdad they were given a most hospitable reception in the Consulate. The Speaker, while referring to his official report, in the preparation of which he is now engaged, for the further progress of his researches, gave an idea concerning the various localities which present a special interest for the undertaking of the Oriental Society, exhibiting maps and various objects found.

The examination of the ruins of Babylon lasted from December 27, to January 24, the journey farther north in Assyria proper lasting from February 9 to March 16. For the former, Bagdad served as starting point and base of supplies, while Mosul-Nineveh served this purpose in the latter. The Caravan necessary for such a tour, together with all men and animals (horses and mules) belonging thereto, was collected in Bagdad. The Turkish government, represented by the governors of Bagdad and Mosul, showed the greatest courtesy to the travelers and took care to provide them a military escort for the protection of life and property in the oases, where the ceaseless feuds among the Arab tribes are likely to place foreigners in danger.

The weather was very unfavorable and the winter unprecedentedly severe. To be sure there is no snow in Babylon, but several days, pieces of ice were found in the water early in the morning, and this cold was accompanied by raw north winds, with occasional rain and fog, so that the daily ride through the steppes or desert from early morning till late in the afternoon, and the halt at the questionable night quarters in cities and villages, with peasants and Bedouins, or else in their own tents, was a severe test on the endurance and health of both man and beast. Not until March 25 did spring put a stop to the freezing, farther west in the Euphrates valley.

Dr. Sachau then described some of the largest and most ancient settlements of man in those countries as revealed by recent excavations. He also corroborated, from his own experience, the powerful impressions described by previous travelers, which the mighty mounds out of the plain, called Tells by the natives, produce at first sight as well as upon closer examina-

tion. These mountains of rubbish and sand which in the course of time have been heaped up over old palaces and temples by the storms of the steppes. While they appear from a distance as single mounds they are usually seen to be when viewed at closer range, confused masses of elevations and depressions, from which the remains of single buildings often project like towers. Often are descried mighty brick walls from the period of a Nebuchadrezzar or from still earlier periods, while at other places the surface has been deeply furrowed by spring freshets. Many of these Tells, which represent the remains of cities very populous in remote antiquity, now lie in lonely oases so seldom visited by man that the hyena has taken up his abode there. Even at the first view the soil shows itself to be of artificial structure and entirely different from natural hills and ridges, for it consists of pieces of clay bricks, glazed and unglazed, and fragments of the most varying description of clay utensils, mixed with earth and boulders. Besides one can find on these ruins, mostly without much searching, other vestiges of the ancient habitation, such as broken pieces of pottery with and without ornament, glazed in various colors, building bricks with inscriptions, small clay figures, cylindrical seals which were used in signing the clay tablet documents, and other similar objects. The characteristic differences of the superficial stratum, which the lecturer demonstrated by various objects found, enables conclusions to be drawn concerning their origin and age; as, for instance, by means of pieces of clay bricks upon which the name of the royal architect and of the building to be constructed or restored is imprinted in cuneiform characters; furthermore, conclusions as to the time when the locality in question was finally abandoned and fell into ruin, some notable instances of fixing these dates were found in some Tells of the time of Cyrus and even earlier. In this connection reference was further made to the fact that many of the finds made on the surface are often of distinctly sepulchral origin and are recognized as remnants of sarcophagi or of those objects which it was customary to place in the grave with the dead, such as urns, small dishes, and pitchers, which originally contained food to nourish the dead on their journeys, small clay figures of gods, Phalli, ornaments, etc. Their occurrence is explained by the fact that the Tells were used in remote antiquity as burial places, and perhaps we may compare this fact in one respect or another with the circumstances that at present the Arab peasants of those countries as a rule do not lay away their dead in any part of their flat fields but, when possible, on one of the mounds located in the vicinity. By making comparisons with the statements made in the cuneiform documents it may be ascertained, in the case of some of these mounds, which palace or which temple they have hidden within them and thus the name of the city in question may be obtained. Details were given of the mighty ruins of Nineveh and Babylon, and the great importance of the numerous monuments obtained there by former explorers as a result of long years of excavating—monuments dating back to the times of the great kings of Assyria who in the VII and VIII Centuries B.C. first created a world empire from the Tigris to the Nile, together with their military and civil institutions, or to the time of the great architect Nebuchadrezzar and more ancient princes in the various provinces of Babylon. After an idea had been given of the ruins according to the finds thus far made, the present economic conditions of those countries were discussed, such as the labor question, wages, means of transportation, etc. In conclusion, Mr. Sachau mentioned the numerous

services which Mr. Richarz, the imperial Consul at Bagdad, had rendered the Expedition, as well as the exceedingly kind reception at the Bosphorus by our ambassador, His Excellency von Marschall, to whom he had the privilege on his way home of relating the experiences and results of his journey.

On the way back the caravan of the Expedition proceeded first from the Tigris at Nineveh-Mosul westward to the Sindschær mountains, situated in central Mesopotamia and inhabited by the devil-worshiping Jezides, thence through the steppes of the Schemmar Bedouins to the Euphrates at Dêr, where the orchards had already come out in their fullest bloom under the spring sun; thence after a short rest, northward in the Euphrates Valley as far as Meskene and then to Aleppo, and finally across the plain of the sea of Antioch and over the Beilan Pass in northernmost Syria to the Mediterranean at Alexandretta.

On June 2, 1898, the scientific council of the German Oriental Society held its first meeting. Privy Counsellor Dr. Sachau was elected president and Dr. Erman, vice-president. Dr. Sachau then made a report on the exploring expedition undertaken by himself and Dr. R. Koldewey from November, 1897, to May, 1898, in Babylon and Assyria. A number of matters were presented for discussion, which are of fundamental importance not only as regards the future action of the Society, but also regarding the organization and development of its whole work.

The question as to the point where the Society should begin its excavations was thoroughly discussed from a scientific and practical standpoint, after suggestions had been made by the president, a selection unanimously was made which will be announced later, together with the reasons therefor.

The council appointed a committee to formulate rules to govern the issuing of the scientific publications of the Society. These publications are to be prepared as quickly and cheaply as possible, so that they may be placed at the disposal of all interested parties without delay or reserve. All members of the Society shall be entitled to expect regular and prompt reports on the progress and results of the work being done.

In conclusion, technical questions concerning the organization of the first expedition were discussed and mention made of the great courtesy of the Imperial Ottoman authorities.

At the meeting of the Directors of the German Oriental Society, held on January 28, 1899, Dr. Sachau reported on the departure of the first expedition of the Society.

After Dr. Sachau and Dr. Koldewey had made their report in June of last year, concerning the preliminary expedition undertaken by them under governmental direction to Babylon and Assyria during the winter of 1897-98, conferences were held among the Board of Directors, in the scientific council, and in the Royal Commission for the scientific exploration of the Euphrates and Tigris countries, to determine which of the proposed localities should first be taken into consideration for excavation. The various views and wishes of the most deeply interested professional circles were successfully reconciled, the plan agreed upon was laid before the Turkish government, and the necessary firman of the Sultan granted in the most gracious manner. Thus were created the necessary conditions for a grand, and, as hoped, a successful work—the excavation and scientific exploration of Babylon.

Considering the colossal extent of the residence city of Nebuchadrezzar this undertaking may be classed beside those previously made by the English and French in Nineveh. Layard, the discoverer of Nineveh, also made researches in Babylon. He was followed from 1851-54 by a French expedition, then by General Rawlinson. He succeeded in bringing to light an architectural document of Nebuchadrezzar. Later, Rassam, the friend and successor of Layard, was also engaged here. However, no systematic scientific exploration has been attempted, and Germany will have the honor of having rendered this service to science.

The ruins of the city of Babylon, rising above the plain in mighty mounds, lie on the Euphrates, two days' journey from Bagdad. Among the various mounds of the extensive territory covered by the city, attention was specially directed, for the beginning of the excavations to that which bears the name of El-Kasr of "the castle," being the ruins of the palace which King Nebuchadrezzar built and in which he dwelt during the greater part of his reign, and the same one in which Alexander the Great died. The researches will show what destruction and decay have left of this magnificent structure and of its treasures of art and literature in the center of the largest capital of antiquity about the year 600 B.C.

There will be a number of ruins besides the Kasr to examine and also the series of walls and gates. It is supposed that a 5 years' campaign will be required to complete the work.

The expedition of the German Oriental Society was organized in conjunction with the general administration of the Royal museums. The leader is Dr. Robert Koldewey, who, together with Prof. von Luschan, carried out the excavations in Sendschirli. To the expedition also belong Dr. Meissner, private instructor at the Halle university, as scientific member; Superintendent of Public Buildings Andrae, and Merchant Ludwig Meyer. The gentlemen will soon arrive at Beirut and proceed thence to Aleppo, where a caravan is being formed for the journey through the desert to Bagdad. The German Consul Richarz at Bagdad will assist the expedition morally and materially.

The funds for the first campaign are made up from the yearly contributions of the members of the German Oriental Society, of a fund raised among the Board of Directors of the Society, and of a subsidy granted out of the Imperial Fund at the disposal of the Emperor. As the enterprise will be an exceedingly costly one it is urgently desired that the funds of the German Oriental Society may be increased by the enrollment of many new members. Applications will be received by the treasurer, Consul General Dr. Paul Schwabach, Behrenstrasse 62-3, Berlin.

### EXTRACTS FROM THE REPORTS OF DR. R. KOLDEWEY

ALEPPO, February 6, 1899.

We arrived at Alexandretta on January 23, and on the 25, safe and sound in Aleppo. The Turkish authorities in Alexandretta and here had been duly notified of our coming and we consequently had no difficulties.

We are being much delayed here in procuring the caravan, etc., but still we are now so far ahead that our departure will probably take place to-morrow, so that we shall arrive in Bagdad in about 26 days. All 4 members of the expedition are well. The weather is rainy.

Bagdad, March 8, 1899.

The expedition arrived safely in Bagdad on March 5. The march from Aleppo lasted 26 days. The authorities at all places touched by us had been notified of our coming by the Turkish Government. In consequence we were met with courtesy everywhere and spared every manner of unpleasantness. In Aleppo we had some trouble in securing the necessary animals (about 24) for the caravan, those we finally obtained with the aid of Consul Zollinger, were weak and slow in marching, for which reason the daily journeys were often very protracted, lasting usually 9 hours and more. The weather, however, was excellent, and the personnel of the caravan good-natured and efficient. That important personage the cook, had been procured for us by Mr. Karl Koch (of the firm of Lütticke & Co.), in Aleppo and proved to be a very good one. We could not hire any saddle horses in Aleppo; we had to buy them and were also fortunate in that respect, for they stood the journey well. In Aleppo Mr. Koch allowed his hospitable hearth to be used as a useful middle point for the expedition. Mr. Koch had also procured us our quarters there in a house connected with the "hotel," where we could handle our baggage when required without being disturbed.

Here in Bagdad the German Colony has kindly provided for our shelter. I live with Consul Richarz, Dr. Meissner with Dr. Hesse, Mr. Andrae with Merchant Bergk, and Meyer with Mr. Bergk's partner, Mr. Püttmann.

According to a letter of the Imperial Embassy in Constantinople to Consul Richarz, Bedri Bey has been designated as superintendent and is said to have departed already. He has not arrived as yet.

On Monday, the 6 inst., we visited the Wali, who informed us that the excavations could not begin until Bedri's arrival. As we have to make various preparations here anyway, which will surely require from 8 to 10 days, I venture to hope that matter will be settled during that time.

Bagdad, March 16, 1899.

According to a dispatch of the Wali to Constantinople we have now had assigned to us as a substitute for Bedri Bey, who has not yet left Constantinople, a citizen of Hilleh, by the name of Nedschib Bey, as superintendent and have been granted permission to depart for Babylon. The expedition will therefore probably start for Babylon on Saturday, March 18, and arrive there the 19.

During the past week I have placed myself in correspondence with the Turkish authorities and other influential officials. Consul Richarz assisted me very effectually in this, having selected the personages with great skill, conducted the negotiations, etc., so that I believe the Expedition to be fitted out in the best possible manner through the co-operation of the Consul.

Babylon, March 27, 1899.

I have to report that the excavation of the Kasr was begun yesterday.

We started from Bagdad on the 20 with a baggage train of 26 mules and arrived safely at the Kasr at noon of the 22. Here we have taken up our residence at a house in the village of Kowairesch; we hope to be able to rent this house, which now looks much like a barn, and fit it up for the purposes of the expedition.

On the 23 I was in Hilleh (1½ hours distance) in order to visit the Kaimmakam. This gentleman had received a general notification of our

coming, but not yet the official permit for the excavation, which was to be issued by the Mutessarif at Diwanieh upon the order of the Wali of Bagdad. The permit arrived on the 25, and as a result it was possible to begin the excavation on the 26.

BABYLON, April 4, 10, 17, 1899.

During the past week further clearing (excavating) was done at the pillars of the western part of the wall, so that they are now ready for this provisional plan, and the ditch cut transversely through the eastern part was deepened and lengthened.

Sixty-six men are now at work.

Of the glazed tile reliefs about 200 fragments have been taken out thus far, there being among them some good pieces of parts of the human body, pieces of lion's skin, lion's eyes and claws, and rosette ornaments. The relief stood partly on light blue and partly on dark blue and on green background.

A modern canal, which hindered the deposit of rubbish before the east front, is being removed farther to the east. Through the kind intermediation of Consul Richarz in Bagdad I have had an extra mail carrier placed in service, who carries our mail from here to Bagdad and can also occasionally take small articles along.

The transverse ditch through the east front has now cut the mighty wall inclosing the Kasr. This wall consists of an outer shell of burnt bricks bearing the well-known Nebuchadrezzar stamp and laid in asphalt. The outer shell is 7.25 meters thick and has behind it a filling of sand and broken stones of 13 meters thickness thus far. The inner shell has not yet been reached. We have thus to deal with a fortification work of over 20 meters thickness at least. Its crest, as far as it is now preserved, lies about 7 meters below the surface of the mound. The brick wall has been previously examined and the débris lying on it contain the brick reliefs, fragments of which we are finding daily here in large numbers as in a mine.

I have made a contract with the proprietor of the house where we are now living, according to which he cannot require us to leave before the expiration of 5 years. We pay a rent of $1\frac{1}{2}$ Lstr. per month and can move out when we wish, leaving to the owner, however, the right of ownership to all new buildings or improvements made by us.

For the latter purpose I have had Master Mechanics and workmen come from Hilleh. In the upper story 4 dwelling rooms and one dining room are being fitted up for the Expedition, and in the lower story the rooms already existing in part are being arranged for a kitchen, the Turkish official, etc.

The weather is gradually growing warmer. The members of the expedition are well. There are now 108 laborers at work.

During the past week the western limit of the sand filling of the east wall was reached, as also the adjoining western shell. The latter, whose thickness cannot be ascertained, consists like the eastern shell, of burned Nebuchadrezzar bricks in asphalt. The thickness of the sand filling is 21.50 meters. The relief bricks are found in the same quantities on the western shell as on the eastern.

There are 130 laborers at work. The heat is increasing. The construction of the house is progressing, the beams having been laid for the lower story.

BABYLON, May 1, 1899.

Within the last 14 days the ditch through the eastern front was pushed forward so that the western face of the wall has been found. The inner shell has a thickness of 13.10 meters and the whole wall, therefore, has the enormous thickness of 41.85 meters. The ditch has thus far penetrated beyond the western face of the wall to a distance of 17 meters into the interior of the mound, where, with the depth of the rubbish at $3\frac{1}{2}$ meters, the virgin soil has not yet been reached. At this depth the relief fragments cease entirely.

The crest of the wall is being cleared toward the north and many relief fragments are thus being brought to light.

In the rubbish on the crest of the wall a small fragment of a monumental inscription on stone was found, concerning the purport of which Dr. Meissner unfortunately could make nothing out, while in the rubbish of the ditch toward the west a fragment of a clay cylinder treating of the construction of the E-temen-an-ki was discovered. 153 men are at work.

Work was suspended on April 21 and 22 on account of the festival (of) "Korban-Beiram" ("Id ed-Dahie").

The work on the house is progressing, the beams having been laid to-day over the upper western rooms.

The heat is increasing and renders existence in our temporary dwelling rooms uncomfortable and work in them even more difficult than it was before.

On April 27, the government commissioner Bedri Bey arrived here.

## THREE PRIVATE LETTERS FROM DR. KOLDEWEY, TO A DIRECTOR OF THE GERMAN ORIENTAL SOCIETY

BABYLON, April 24, 1899.

You cannot imagine how much we have to do here. This work is certainly of an entirely different nature from anything in Europe, and interruptions play a great role therein, occurring with such frequency and regularity that they must be treated here as a special feature of the work. It matters not where one happens to be stopping, in the "hotel" at Aleppo, in the tent on the Euphrates, under the lordly "pillar supported roof" of our Consul Richarz, in Bagdad, or here in the stable-like quarters in Kowairesch, which with their shady palms and swarms of flies, constitute our present stopping-place. The number of idlers is greater here than with us and people come and sit about, talking about nothing, amusing themselves greatly, and having not the faintest idea of time or labor—and then, some one sits over coals. This is especially disagreeable, because it has become warm enough here anyway. It rained quite frequently in Aleppo and I now think with a sort of longing of the coal and dampers which were disagreeable to us there, especially in the new house consisting practically only of windows which had been rented for us as an annex to the "hotel." We had some trouble in Aleppo in collecting the necessary animals for our caravan. One negotiates with a "Mukar," but just as he is negotiating and has set a day for departure he learns that the Mukar has wandered off to Adana or Mosul or elsewhere in the vast Turkish Empire. Then one opens negotiations with another and hopes and hopes that matters may come to something.

We need about 22 animals for the baggage and 4 saddle horses. The latter could not be hired and we had to purchase them. Our need in this

respect soon became known throughout Aleppo and everyone who possessed an old broken-down horse thought it would be good enough for us and came with it to our door, usually in the morning. One was sway-backed, another had lame legs, the third kicked and bit, the fourth was too lazy, the fifth was too young, the sixth was too dear, the seventh was too old, etc. However, we finally came away very successful. The animals stood the long journey well and are now standing outside in the "stable," i.e., near a clay wall 5 meters high, munching their barley and allowing the shade from the palms to fall on their backs.

We are on the ground now and have been digging, as you know, 4 weeks in Nebuchadrezzar's palace. We are not, however, as yet very comfortably quartered. This hinders me very much in writing. It is lonely here and we are fond, in the absence of theaters, the club tables, daily newspapers, and other diversions, of thinking back over our journey, which was so extraordinarily ordinary, and void of incidents, and of the resting points, Aleppo and Bagdad. These places lie close together in Stiehler's Atlas—hardly a finger's breadth apart—and if you follow our route, which led in the usual way via Dêr and Anah on the Euphrates, it will be difficult for you to imagine how the journey could require 24 days. It is true that we did not ride specially fast, the pack animals did not travel well—but still we did not go so very slowly either, and only stopped one day each in Dêr and Islahieh. The stop in the latter place was made because I wished to photograph the ruins of an old city there, the so-called Kan-Kalessi. Although I have already been over the whole route once, and in part twice, I always like to ride again along the steep banks of the peculiar river, pitch my tent in the evening in the desert, listen in the stillness of the night to the chunks of the clayey bank which, being slowly washed away, splash melancholily into the water, and to the jackals howling in the moonlight. The desert is the most pleasant place to camp, for one is entirely to himself there. In the cities, such as Dêr, Anah, or Hith, which are filled with asphalt smoke, the people always stand too curiously about the tent and disturb the slumber so much required after a 9 hours' journey. We suffered no privations, to be sure, but on the contrary, were provided with everything necessary, such as tents and beds, cooks and kitchen, coal and servants, canned goods and soldiers, so that we could travel comfortably and according to our station; still the daily repetition of a long ride and the pitching and breaking up of camp every day is rather fatiguing when continued for a month. When, on March 5, I saw the golden domes of Kadhmeïn and the tall minarets glittering above the palms, I was glad, and the exceedingly kind and hospitable reception given us by the German colony at Bagdad, with Consul Richarz at its head, was calculated to render life so pleasant for us in Bagdad that finally, on March 20, after procuring many supplies, in which our friends everywhere lent us aid and assistance, it was not without a certain regret that we mounted our steeds again in order to set out on the last two days' journey to Kowairesch.

It is, as I said, uncomfortable here, and after I have finished my daily work out of doors in the rather glaring sun, I am unable thus far to find a convenient place to write. It is simply a temporary arrangement, however, and all will soon be changed. Already there are about 15 masons, hod carriers, etc., busily running about in their usual lively manner in our new building, which, fitted out with all the comforts of modern times, will offer to each of us a home. All that is necessary is for it to be completed,

this "Babylonian Exploration Bureau," Bureau of the headquarters of the Babylonian Excavating Expedition. And we hope to be able to move into it in a couple of weeks.

The annual meeting of the General Assembly of the German Oriental Society at Berlin took place on May 8, 1899, under the presidency of His Highness Prince Henry zu Schoenach-Carolath.

The reading of the annual report, which had been printed and sent to all the members, was dispensed with and no further debate was held thereon.

The financial report was presented by the treasurer.

According to it the receipts amounted in 1898 to 68,488.30 Marks (1 mark = 24 cents) and the expenditures 27,222.30 marks, so that there remains in the treasury on January 1, 1899, a balance of 41,266 marks.

There was, besides, opened a special account for the single contributors to the first expedition, which showed a balance on January 1, 1899, of 8,863 marks.

In the debate following, it was pointed out that, although the available funds would suffice for the labors of the Society during the current year, the only funds in prospect for the next year were thus far the yearly contributions of the present members, which would by no means suffice to carry on the enterprise on a large scale. It would, therefore, be very necessary to start a lively agitation in order to secure new friends to the cause. Upon motion of the President the question is to be discussed by the Directors whether or in what manner the grant of a governmental subsidy is to be asked for.

Then followed the discussion of a proposed amendment to the by-laws which had been submitted the previous year by the Scientific Council to the Directors and adopted by the latter. The meeting agreed to the purport of the proposed amendment, but decided not to incorporate it in the by-laws, adhering to the opinion of Dr. Hammacher that the amendment, being merely regulations relative to publications concerning objects found, had better be referred to the Directors for their guidance in future negotiations with the Museum authorities and in the organization of expeditions. Upon motion of Professor Conze an addition to these regulations will be made to the effect that when objects found are given to public institutions all rights of publication concerning them shall be reserved to the German Oriental Society.

After the elections made since the constituent assembly had been confirmed, the number of directors for the current year was fixed at 26, the right being reserved to make further addition, and the members of the Scientific Council were increased to 9. Of these 9 members one represents the Royal Prussian Ministry of Spiritual, Educational and Medical Affairs, one the Academy of Science at Berlin, and one the General Administration of the Royal Museums, while the remaining 6 are elected by the General Assembly for 3 years each.

The by-laws were then finally approved in their present form.

In conclusion, the Secretary read the reports thus far received by the General Administration of the Royal Museums from Dr. R. Koldewey, chief of the Babylonian Expedition, and Professor Delitzsch briefly sketched the prospects, from the standpoint of architecture, history, art, and literature that are being brought to light by the excavations on the Kasr, the mound containing the ruins of Nebuchadrezzar's palace.

## THE NATIONAL MUSEUM OF MEXICO

BY WILSON W. BLAKE

THE Chevalier Lorenzo Boturini Benaduci, a devout Italian Knight, visited Mexico in 1736 to make an investigation of the truth of the legend of the Apparition of the Virgin Mary at Guadaloupe. Incidentally, while collecting material on this subject, his interest in the pre-Columbian history of Mexico was aroused, and in the course of 8 years of protracted research he succeeded in accumulating over 150 manuscripts and hundreds of hieroglyphic fragments on skins and maguey paper. This priceless collection was confiscated by the Spanish government and deposited in the archives of New Spain in the Viceregal palace of the City of Mexico. During the Revolutionary Period that followed the War for Independence [1810-1821] many of these precious documents were lost or stolen, but those that remained were the foundation of the present National Museum. The negligence with which they were kept caused the Viceroy Bucareli in 1773 to order that all the documents upon Mexican antiquities in the archives should be removed to the Royal University "as a place better fitted for the use of their information." Another of the Viceroys, the second Count Revillagigedo, ordered that the ancient monoliths excavated in the principal plaza of the City of Mexico in 1790 and 1792 should also be removed to the University—now the National Conservatory of Music.*

In 1822 the Emperor Iturbide established a Conservatory of Antiquities and a cabinet of Natural History in the University. In 1831 these were rearranged and merged into one institution under the name of the National Museum of Mexico. In 1865 the Emperor Maximilian ordered the removal of the Museum to the spacious rooms which it occupies to-day on the north side of the National Palace—where the mint was formerly situated. On the restoration of the Republic in 1867, $6,000 per annum were appropriated for the support of the Museum. This sum has since been increased to $10,000.

The Museum was originally divided into three departments: Natural History, Archæology and Library. The Library was subsequently removed to its present magnificent resting-place, the convent of Saint Augustine, but the Director of the Museum has in recent years gradually accumulated a collection of archælogical books as a working library for the staff of professors, until it now numbers over 5,000 volumes.

### THE AZTEC CALENDAR

The most wonderful aboriginal monolith in the New World is the stone known to archæologists as "the Aztec Calendar." This monument, which is more properly speaking a zodiac, was carved from the solid rock in 1479, 13 years before Columbus discovered America. It was transported on a stout raft along the canals from Coyocan, 10 miles away, to Tenochitlan, the present City of Mexico.

In the year 1521 the indomitable Cortes, with his little band of Spanish adventurers, concluded the conquest of Mexico by pulling down all the

*The great Calendar Stone was exempted from this order.

AZTEC CALENDAR STONE

temples. This rock, and many large idols, and other objects of worship, were buried in the surrounding marshes by order of the Christian monks to hide them from the eyes of the heathen. It came to the surface in 1551, and was reinterred in the year 1558, by order of the Archbishop Montufar, who was greatly shocked at sight of the heathen emblems. After the second interment it was entirely forgotten. During the succeeding 232 years not one of the many writers on Mexican antiquities mentioned its existence. Therefore it was a new revelation when, on the 17 of December, 1790, in lowering the grade of the ancient pavement of the Great Plaza in front of the Cathedral, in order to make it level with the street, this notable monument was discovered. The wardens of the Cathedral begged it of the Viceroy, who gave verbal order that it should be delivered to them on condition that it should be preserved and exposed in a public place. They accordingly built it into the base of the southwestern tower of the Cathedral, and there it remained until August, 1885. It has, however, always been considered as the property of the National Museum and, for preservation from the elements, it was finally removed thither. The great mass of stone was carried forward at the rate of a few feet daily for several weeks until it finally reached its present resting place in August, 1885. It stands out in bold relief from the south wall of the lower salon.

This zodiac is 11 feet 8 inches in diameter. It is a mass of basalt of fine grain. Alexander von Humboldt calculated its weight at 24,400 kilograms, or 53,792 pounds avoirdupois. This enormous weight shows the immense difficulties which the Aztecs surmounted in transporting it several leagues to their great temple.

The entire face of the rock was painted red to indicate that it was dedicated to the Sun—and there are even yet traces of the color remaining after a lapse of 423 years.

LOOKING WEST IN THE "MONOLITH ROOM" OF THE MUSEUM: "COATLICUE" IN THE FOREGROUND; "AZTEC CALENDAR" IN THE CENTER ON THE LEFT; "STATUE OF TEOTIHUACAN" IN THE BACKGROUND

The celebrated Mexican archæologist, Don Antonio Leon y Grama, described this stone in 1792. He named it "The Aztec Calendar," a name which still clings to it. The Indians on the streets of Mexico, to-day, call it "El Relox de los Indios" or the "Indian Clock." In 1876, Chavero, rechristened it, and correctly, "The Rock of the Sun."

Space will not permit an explanation here of the relieves on this grand monolith, concerning which whole volumes have been written.

### STATUE FROM TEOTIHUACAN

The "Goddess of Water" is the title given by Leopoldo Batres, the present conservator of ancient monuments in the Republic, to the great idol brought by him to the Museum from the pyramids of San Juan de Teotihuacan, 27 miles northeast of the City of Mexico. It was first fully described by Ramon Almaraz, head of the scientific commission sent by Maximilian in 1864 to explore the pyramids, as "a parallelopiped, 10 feet 5.59 inches in height and 5 feet 4.96 inches along one of the sides of the square base; hence its volume is 306.16 cubic feet; and its density being 1.88, its weight is found to be 18 tons.

This simple and imposing statue of trachyte is the celebrated "fainting stone" which for centuries had lain on its face at the base of one of the small mounds near the Pyramid of the Moon. Latrobe saw it in 1836, Brantz Mayer in 1842, and Waddy Thompson in 1846. Since then it has been frequently mentioned by travelers.

LOOKING EAST IN THE "MONOLITH ROOM" OF THE MUSEUM; "SACRIFICIAL STONE" IN THE FOREGROUND; A PORTION OF THE "COLOSSAL HEAD" SHOWN ON THE IMMEDIATE LEFT; REAR "STATUE FROM TEOTIHUACAN" IN THE CENTER; "AZTEC CALENDAR" FARTHER ALONG ON THE RIGHT; "COATLICUE" IN THE BACKGROUND

The work of excavating the Goddess from the rubbish (that had gradually accumulated around her since the day, 25 years previously, that Almaraz placed her on her feet) was begun in the autumn of 1889. The labor of transporting the immense stone to the Museum was slow and tedious. It arrived at the capital March 2, 1890, and was something more than a month in passing through the streets to the Museum door. Finally, it was safely placed on its pedestal in the center of the room devoted to large monoliths, and its heroic size and stern features attract instant attention from every visitor.

## COATLICUE

In 1790, a statue, 8 feet high and 5 feet in diameter, and sculptured on front, rear, top and bottom, was discovered in the Plaza Mayor or Zocalo, in the capital. Coatlicue, means "the Goddess of the skirt or serpents" in the poetic tongue of the Aztecs and although this stately statue in its aggregation represents the earth, it is the earth in the night time or after sunset. It is, therefore, Mictlancihuatl "the mistress of the regions of the dead"; it is the loving bosom of a mother in which her children repose in eternal slumber; hence the adornments of skulls which the statue has in its belt. In the night the Sun on sinking into the earth was converted into Mictlanteuhtli, "Lord of the Dead." He was beneath her, and this is expressed by the bas-relief which is beneath the statue of the Goddess and is the face that is resting on the pedestal. A papier-maché cast of this face rests against the pedestal.

The sculptured base, together with the side projections, prove pretty conclusively that this idol was originally raised from the ground floor. It was supported either by two pillars at the sides or by the walls of some sacred inclosure, the space beneath the idol being the entrance.

The half dozen immense sculptured stones of dark basalt in the east end of the monolith room were brought from the plaza of Tula, state of Hidalgo, in the summer of 1885. They consist of two pairs of colossi, feet and legs, about 8 feet high, three parts of a pillar, and a great vase or capital which probably surmounted the pillar. Each of the sections of the pillar has a mortise in one end and a tenon in the other, making close-fitting joints. These monoliths are the most ancient type of sculpture on the high plateaux of Mexico, and are usually ascribed to the Toltec race. The legs were parts of Atlantes or Caryatides for supporting the roof of the temple in the ruins of old Tollan, which was founded in the year 674 A.D. The great vase has a hole in the rear to permit the blood to run out—if, as is generally believed, the vessel was used for holding the hearts of human sacrifices. All of these stones are carved in the front and sides only; the rear portion evidently having been set into or against a wall.

### THE SACRIFICIAL STONE

The "Cauhxicalli (drinking cup) of Tizoc" is a trachyte monolith 8 feet in diameter and nearly 3 feet in height and was discovered in the principal plaza of the City of Mexico in 1791, just one year from the discovery of the Aztec Calendar. It was found near the southwest corner of the Cathedral yard, in an inverted position. Other great rocks were found in the immediate vicinity, but unfortunately, they were broken up to be used in the street pavements.

The accompanying illustrations show the carvings of the upper face and the relieves of the sides. There has been much controversy among antiquarians respecting "The Sacrificial Stone." I still remain of the opinion which I published 18 years ago, that the hollow in the center and the canal or gutter were the work of the Spaniards; and that there must have originally been a face of the Sun in alto-relievo in the center. Partially confirmatory, I call attention to a fact almost forgotten, viz: when Brantz Mayer saw the Rock, in 1841, he found "a stone cross erected in the middle to sanctify it."

Looking at the relieves we see that the figure of the warrior is the same in all the groups with the exception that in the first pair it has a more elaborate headdress, and behind it is the symbol of a human leg, the hieroglyphic name of Tizoc (a), the seventh King of Mexico, who reigned from 1841 to 1846. The victim is from the town Matlatzinco, as shown by the hieroglyph (b). In the 2 group the victim is from Tochpan (c); in the 3, from Ahuilizapan (d), now called Orizaba; in the 4, from Ahuexotla (e); in the 5, a woman, from Culhuacan (f); in the 6, from Tenanco (g); in the 7, a woman, from Xochimilco (h); in the 8, from Chalco (i); in the 9, from Xaltocan (j); in the 10, from Acolman (l); in the 11, from Atzcalmacan (m). (The victim is bearded and has upon the eyes the band which expresses condemnation to death or sacrifice; probably he was some chief conquered in a campaign and brought to Mexico); in the 12, a captive also with a band over his eyes, from Yancuitlan (n); in the 13, from Tonatliymoquetzlan (o); in the 14, from Ehecatlihuapechan (p); in the 15, from Cuetlaxtla (q). Tizoc and his leading warriors are represented as conducting the victims to the sacrifice which was made every 4 years in the feast dedicated to the God of Fire, Xiuhtletl.

### KINICH KAKMO

In 1874 Dr. Le Plongeon explored the ruins of Chichen-Itza in the state of Yucatan, and excavated a beautiful statue which he found 25 feet below the surface of the soil. He says that he was lead to dig for it by deciphering certain inscriptions found on the walls of one of the ruined temples. It is of a light-colored limestone representing a human figure half reclining on its back and holding between its hands on the navel a hollow disk. It turns its head majestically to the right. The head is larger than the natural size and is adorned with a kind of crown or headdress and two earrings containing hieroglyphics. On the breast is an ornament pendent from the neck by a ribbon. There are feathered wristlets on the forearms and sandals on the feet. The attitude is severe and imposing. The statue and its pedestal are all of one piece of rock and it is one of the representations of the Sun god. In the Maya tongue this deity was called Kinich-Kakmo, Kinich meaning "sun" and Kak "flame."

### COLOSSAL HEAD

On excavating for the foundations of a new house in 1831, in the streets of Santa Teresa in Mexico City, a gigantic head, sculptured in diorite, was found. It is 3 feet high, over 2 feet in width and about 7 feet in circumference. It is, perhaps, the finest piece of sculpture that the Museum has in its possession, and it approaches in perfection and beauty to the works of art of Ancient Greece. From the spot found it is believed that this head originally was placed in the greatest temple in Mexico, in the edifice called Yopico Calmecac.

COLOSSAL HEAD

There is a connection between this head and the Calendar Stone. The glyphs and bands in its headdress demonstrates this, as also do the shells with their divisions. It has earrings in the form of disks as they are always seen in the carved representations of the Sun, and from these issue rays of two distinct classes—an unmistakable feature of the Calendar. The bezotl that hangs from the nose is in all respects similar to the ear pendants and to the tongue of light of the planet. On each cheek is a triple ornament, the upper part of which is a disk containing a cross of equal arms. These may be the two crosses of Quetzalcoatl, or the planet Venus. As the Evening Star, he had a period of 260 days, or a religious year; and, as the Morning Star, he had a course of 260 days or another year of the sacred Tonalamatl. For that reason two crosses are always seen on the dress of Quetzalcoatl, the Plumed Serpent.

The frontal part of the cap or cowl is formed of ribbons or engraved lines, and upon these ribbons are 13 shells with 9 lines in each shell. The posterior portion of the headdress, which falls to the neck, has 20 shells. On the crown of the head are three centric circles of glyphs, 8 in the upper circle, 14 in the middle and 24 in the lower. From the crown there falls to the left a beautiful tassel which terminates in 6 glyphs. Summed up, all the glyphs give us the 52 years of the Aztec cycle, and the shells give the 13 days of the religious month, the 20 days of the civil month and the 9 "lords of the night." There are two other small tassels. There are also on the crown of the head chronological rays which combine with the ribbon or band that runs from right to left beneath the glyphs. This ribbon is a serpent whose head is found beneath the sculpture near the symbol of water. The head being carved on all sides, as well as above and below, is complete in itself.

### THE PALEMKE CROSS

The immense ruins of Palemke are found on the banks of the Usumacinta river, in the state of Chiapas, lat. 17° 30′ n., long. 92° 25′ w. The hieroglyphics which cover them are still dumb to the insatiable questioning of science. In the dense tropical forest, difficult of exploration, are found vast artificial terraces of cut stone, surmounted by solid edifices of one, two and three stories, and covered with figures in relief. On slabs of stone are numerous colossal figures. Many of the statues more nearly resemble Grecian than Hindu or Egyptian art. These ruins were in the same condition when Cortes conquered Mexico as now, overgrown with a forest, and their site forgotten. They were discovered in 1750, but the attention of the antiquarians was not directed to them until nearly a century later. Probably the most interesting remains are the three marble slabs which, until recent years, stood above the altar in the "Temple of the Cross," in the deserted city of Palemke. Of these three mural tablets, one is now in the Smithsonian Institution, at Washington, the central stone is in the Mexican Museum, and the remaining one is in Palemke. Each of these tablets is 6 feet 4 inches in height, 4 feet wide and 6 inches thick. The rock is of a very fine grain and a rich cream color. The piece in possession of the Smithsonian is covered with a series of hieroglyphics in 6 rows, and contains the posterior portion of the mitre and ornaments of the figure that stands at the left of the Cross on the central tablet. This latter stone contains a striking representation of the Christian Cross on a pedestal in the midst of a complication of hieroglyphics. It also shows a priestly figure, nearly life size. The left-hand stone, still at Palemke, contains another priest and another series of hieroglyphics in 6 rows, running from top to bottom.

### TERRA COTTA

The Museum is wonderfully rich in specimens of the skill of the ancient potter. The soil and climate of Mexico, on the whole, have assisted to preserve these fragile antiques. The practiced observer can, at a glance almost, distinguish the locality from which each piece in the cases has come. Perhaps the most interesting specimens are those so noteworthy for the elaborate profuseness of their decorations—from the Zapotec country of the state of Oaxaca. All the idols from the west coast—the states of Colima, Michoacan and Jalisco—have a Chinese cast of eyes, and the sex is unmistakable. In Anahuac—the Valley of Mexico—in addi-

tion to thousands of household gods and vases there are to be found occasionally old stamps or seals, of which a vast number are in the Museum. It is supposed that they were principally used in stamping tiles or decorating the walls of houses. There are also a few pipes, and an endless variety of spindle-wheels for spinning cotton, similar in size, shape and markings to those found on the Trojan Plain. The vases from the great pyramids at Cholula, near Puebla, are very beautifully decorated in polychrome colors.

### METAL

The art of the jeweler and the silversmith was much advanced in Mexico. The works of this class sent to Charles V. by Cortes were greatly admired in Spain, and the silversmiths there deemed them inimitable. In a letter to his sovereign the conqueror writes: " . . . . and many other things for Your Majesty I assigned and set apart, which must have been of a value of 100,000 ducats or more; the which, although of this monetary value, were of such marvelous workmanship that, considered for their novelty alone, they were beyond all price; neither is it to be believed that any princes in the world of whom you have knowledge can possess similar ones." These wonderful specimens were lost in that terrible retreat known as the Noche Triste, and strange to say, the notable jewels which the Court of Charles V. admired are not to-day found in any museum of Europe; nor in private collections. They were probably melted and coined into money.

We learn from Aztec paintings that the jewelers used the crucible, the muffle and the blowpipe. Cortes asserted that they could make from gold and silver faithful imitations of any natural object. Thus, he says, they cast a bird which moved the head, tongue and wings; or a monkey with movable limbs and with rattles in its hands. The historians, Torquemada, and Clavigero, likewise positively assure us that the Aztecs drew from the moulds a single piece, half of gold and half of silver, and could mould a fish with half of the scales gold and half silver. These are secrets which have become lost arts; and the filigree work, only, is done to-day as in antiquity.

The gold specimens in the Museum are limited to 3 small idols, 10 beads, an earring, a magnificent finger-ring, and two clasps. However, about 150 gold objects were recently unearthed in the excavations for the drainage works behind the Cathedral, and they will later be labeled and arranged in cases. There is but one silver specimen in the Museum, but a most interesting collection of articles of copper. The latter metal was principally employed in the manufacture of chisels, axes and lapidary tools. It is often found alloyed with tin, and then becomes almost as hard as bronze. Many beautiful little bells, made of fine wire wound round and round a clay core, and then welded, are to be seen; also numbers of the instruments in the form of a meat chopper, which comes from Oaxaca and is called "Zapotec money."

### LAPIDARY WORKS

The work of the lapidaries and jewelers was often combined. The Aztecs, or their immediate predecessors, knew how to cut fine stones. They probably learned the art from the civilizations of the south. Their precious stones were the turquoise, jade, rock crystal, opal, sapphire, emerald, bloodstone, and all the opaque or semi-transparent stones. The

polishing seems to have been done, first with flint-dust and afterward with fine sand. In drilling holes in beads, amulets, or other necklace pendants, they seem to have used a bronze awl, introduced by successive blows, and aided, perhaps, by water and fine cutting sand; they also used the "fiddle-bow" and a hollow reed in drilling. They often employed wedges or chisels of diorite or other hard rock.

The Aztecs wore earrings, nose-rings, necklaces, bracelets, armlets and anklets. The nobles were distinguished by a lip-ring, whose proper name was tentetl, called by the Mexicans to-day bezote. Its nickname is "little hat." It is worthy of note that the Esquimaux wear an ornament very similar in form.

The display of obsidian is very fine. Some small earrings, so delicate that they can scarcely be handled without breaking, are of unsurpassed workmanship. In the "Acolhuan Case" is a precious vase of this material from an ancient grave near Texcoco. The finder sold it to the owner of the grounds for a sheep valued at $1.25. The purchaser gave it to a friend, who sold it for $300 to the Museum. It is valued at $1,200. In another case mirrors of obsidian are seen. A very fine obsidian mask is from Michoacan. Many of the offensive weapons were also of obsidian.

In tecali, Puebla marble, or Mexican onyx, there are many vases; one worked with Oriental grecques, and resembling a Thibetan teapot, same from the Isle of Sacrifices off the port of Vera Cruz; a very similar specimen in the Museum came from the village of Tepeaca. From the Isle of Sacrifices also same a peculiar vase; it has an inner tube running from the bottom to the top.

In diorite, serpentine, jade and greenstone the Museum has some choice specimens. Some maskoids are worthy of honorable mention for their correct execution and fine polish.

### MUSICAL INSTRUMENTS

There are many clay whistles to be seen in the Museum, each of them sounding but a single note. The notes are, however, of different pitch, and each has the peculiarity of exactly reproducing the voice of a bird. The chirp of the wren and the scream of the sparrow-hawk are faithfully imitated.

The only ancient flutes in the Museum are those of baked clay. Flutes of stone have, however, been found in Mexico, and doubtless reeds were used. But the perishable nature of the cane made flutes of this material short-lived and debars those that are found to-day from all interest to antiquarians.

The Huehuetl was a wooden cylinder more than 3 feet in height, curiously carved and painted, and covered on the ends with deer-skin well tanned and stretched, which was tightened or loosened to make the sound sharper or deeper. The large one standing on end in the Museum is the great war-drum of the Aztecs which was beaten the "sorrowful night," noche triste, July 1, 1520. It was played upon only with the fingers and required great dexterity on the part of the player to produce that deep, penetrating sound necessary in order to cause it to be heard in all parts of Tenochitlan.

The Teponaztli, which the Indians even to this day use, is also cylindrical and hollow, but entirely of wood, without any skin. On the upper side

STONE TIGER

it has two long parallel apertures not far apart, united by another slit crossing one to the other, giving an exact resemblance of the letter H, and has no other opening. It is beaten by two small sticks, similar to those used by modern snare-drummers, but usually covered at their extremities with rubber or elastic resin to soften the sound. It is struck on the two tongues of wood within the letter H—on the spaces between the longitudinal openings. The size of this instrument varies. The smallest are suspended from the neck. The largest, more than 5 feet in length and 1 foot in diameter, give forth sounds that can be heard at least 2 miles. Chavero asserts that in olden times they could be heard from 6 to 8 miles. The two tongues of wood gave different tones—one sharp and the other a deep bass. Although nearly all the specimens in the Museum have been brought from places pertaining to the Nahuatl race, the latter adopted this instrument from the Mayas. It attained its highest perfection on the Peninsula of Yucatan, where it was called tunkul. There is no musical instrument similar to this known in any other part of the world.

## INDIAN PAINTINGS

While many of the early hieroglyphic paintings of the Mexicans were destroyed by the Spanish conquerors and missionaries, the Museum, fortunately, possesses some splendid manuscripts, such as a great wall-map or plan of the City of Mexico; a chronology of the wanderings of the Aztecs from the year 596 A.D. to 1299 A.D., 48 feet long and 9 inches wide; the Chronology of the Kings; the Alliance of the Tribes; the Book of Tributes, intensely interesting; and the more modern Tlaxcalan paintings, which show the alliance of the Tlaxcalans with the Spaniards in the conquest of 1521. In all these manuscripts or paintings great defects will be noticed, if they are considered from an artistic point of view. But it should be borne in mind that they were drawn to represent diverse and sundry subjects, which were always represented in the same manner and

shown by arbitrary signs that could not be altered or improved except under the penalty of being illegible to the reader.

They are not properly paintings, but graphic conventional signs. They are not the expression of art. The writers of that age, as those of to-day, cared only for the idea which they desired to perpetuate—paying small regard to the beauty of the characters or penmanship.

### LATEST ADDITIONS

In excavating for the drainage works in the street behind the Cathedral, at a depth of 25 feet below the surface, a great number of antiques were unearthed, and at once removed to the Museum. Many of them are unique and beautiful in form. A conical tower and an altar were left *in situ*, with a subterranean entrance which will permit of their examination and study by archæologists. In December of 1901, in excavating for the foundations of the new Palace of Justice and Public Instruction, one block north of the Cathedral a stone tiger was found. It is of compact basalt, 7 feet 6 inches long, and 3 feet in diameter. A hollow in the back is 17 inches wide and 10 inches deep and on the bottom of this cup are carved the emblems of the god Tezcatlipoca. The entire stone was originally painted in the colors of a living tiger, and it was evidently once the cuauhxicalli or vase to receive the hearts of human sacrifices, and was situated in the temple of Tezcatlipoca, the advocate of the warriors. This monolith weighs four tons, and the figure is striking, bold and almost unique in Aztec art.

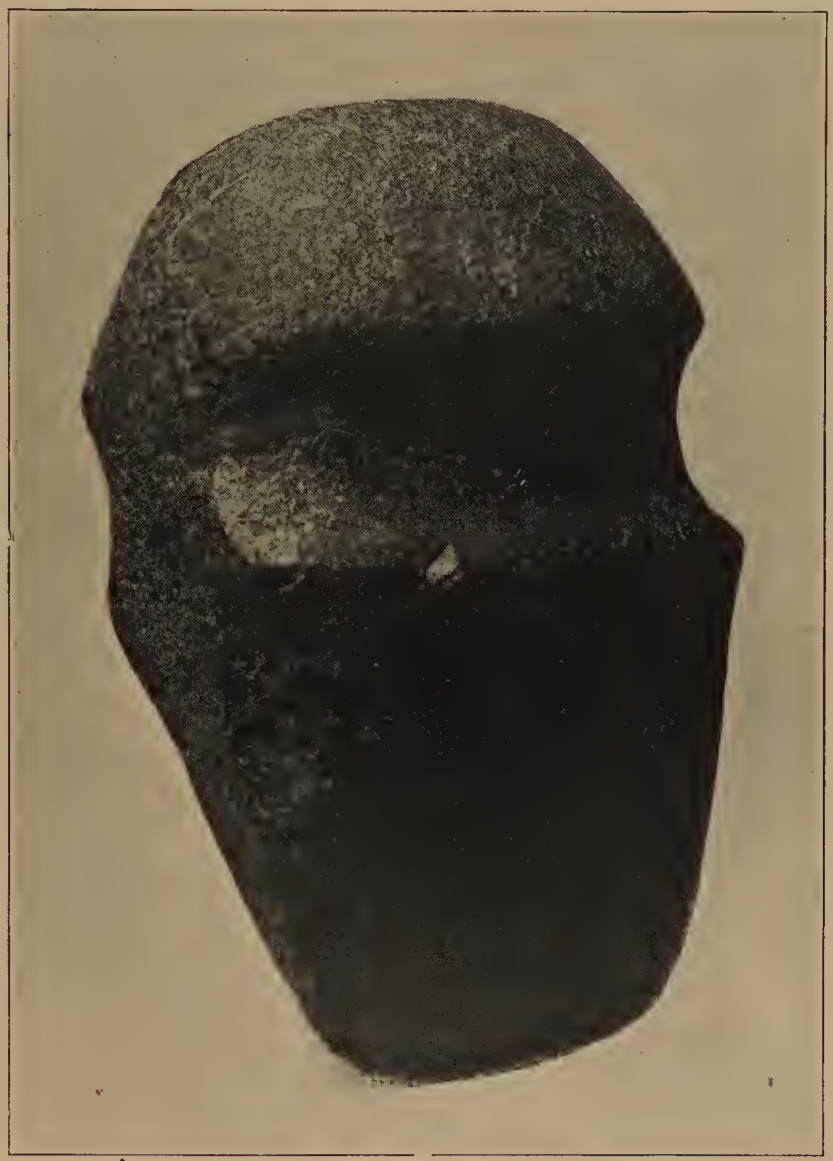
RELIEVES ON THE SACRIFICIAL STONE

## THE CLAYTON STONE AXE

BY CYRUS A. PETERSON, M.D.

THE construction of a belt line railroad around the city of St. Louis through the low hills of St. Louis county has accidentally led to a discovery which may be of more than casual interest to archæologists. The hills through which this railroad passes are capped with a quite uniform deposit of loess, resting upon a tenacious red clay and the latter upon a continuous limestone formation. The loess is remarkable for main

taining an average depth of 10 to 15 feet above the older formation regardless of the undulations of the latter. At a point about half a mile northwest of the village of Clayton, which is the county seat of St. Louis county, in the latter part of September, 1902, the engineering corps in charge of construction work picked up a well-formed, neatly-finished stone axe, turned out of its bed by a plow of the graders, where it had been resting at



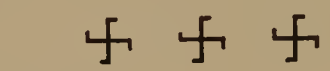
THE CLAYTON STONE AXE

the juncture of the loess, 14 feet deep, with a tenacious sub-stratum of red clay. The division engineer in charge of the work was Mr. Clinton H. Fisk, and his assistants who were with him at the time were Mr. Oliver Mooreshead and Mr. Charles R. Thorburn.

The axe was encased in a large clod of dirt broken up by the plow, and Mr. Fisk removed it from its matrix of earth and taking it to his office, scrubbed it clean, removing all evidence of the clay in which it had been imbedded. The axe remained in the engineer's office for a number of weeks without exciting any particular attention or arousing any curiosity on the part of the gentlemen who discovered it. It was then given to Mr. R. E. Johnson, of St. Louis, chief engineer of the line of road under construction.

About the middle of November, 1902, Mr. Johnson brought the axe to the attention of Dr. W. F. Parks, who is an intelligent and enthusiastic collector of archæological specimens, and related where and how it had been found, without attributing any importance to the discovery. Dr. Parks at once obtained temporary possession of the axe and had it photographed and invited the attention of the writer to the unusual find of the engineers as herein stated. The writer, with Dr. Parks, has twice visited and had pointed out the exact spot at which the axe was found, and, as there is no question of veracity raised against the corps of civil engineers who picked up the axe, there can be no doubt but that it was imbedded in the original surface of the ground and that the whole loess deposit of 14 feet was superimposed.

The point at which the axe was found is 15 miles from the Missouri River, the unquestionable channel through which the loess was conveyed to this vicinity, but whether the deposit is sub-aqueous or sub-aerial in character the writer will not vouchsafe an opinion. The implement is 5 inches long and $3\frac{1}{4}$ inches wide, and shows evidence of use, both on the poll and edge, and does not look different from what an ordinary granite axe of this character would after 200 years of supposed weathering. Its immunity from deterioration must be ascribed to the protection afforded by the deposit of loess above it. The writer cannot but regard this discovery as being of as great importance as that of the "Lansing man." The finding of this axe demonstrates beyond question that the native American in this vicinity had reached the neolithic period of culture prior to the deposition of the loess formation in the Central Mississippi Valley.



# EDITORIAL NOTES

**ABORIGINAL INHABITANTS OF THE PHILIPPINE ISLANDS:** The first reports from the Museum founded at Manila by an act of the Philippine Commission, in October, 1901, have just appeared in a report of the Philippine Commission. At this time an appropriation of $8,000 was made to cover the expenses for collecting and preserving "Objects illustrating the ethnology of the Philippine Islands." The Museum at present is under the direction of the chief of the Bureau of Non-Christian Tribes. They have been securing the co-operation of the American teachers and provincial and army officers in the work of collecting data bearing on the past history of the Philippine natives.

The division of the Museum in which readers of RECORDS OF THE PAST will be most interested is that of ethnology. The aim of this division is "to obtain specimens of every article made or used by every tribe in the archipelago. A definite plan will be followed in the display of these objects similar to that adopted by the United States National Museum, using the family as a unit. This is a work that will require many years for its accomplishment. Many things possessing an ethnological interest are doomed to disappear with the progress of civilization, but before they do special effort will be made to secure specimens to be preserved."

Mr. David P. Barrows, chief of the Bureau of Non-Christian Tribes, has an extremely interesting report in appendix Q of the report of the

Philippine Commission for the year ending August 31, 1902. Although the main object of this bureau is to investigate the actual present condition of the Pagan and Mohammedan tribes and recommend legislation for their government, it is also "to conduct scientific investigations in the ethnology of the Philippine Islands." The results of the investigations during the past year are summed up in the following report, dated September 1, 1902:

Data of every sort are too insufficient to enable anyone to form more than a working outline of Philippine ethnology, but in the following paragraphs is given a tentative classification of native peoples.

While the vast bulk of the population is unquestionably of Malayan origin, the aboriginal race of the archipelago is the dwarf, black people known as "Negritos," or little negroes. This race is almost the smallest on the globe, and while suggestively negroid in their dark color and frizzly mops of hair, they have neither the prognathism nor the dolichocephaly of the African and Melanesian. They are true savages, depending for food upon the chase and wild roots, neither living in villages nor building stable huts, but roaming through the mountains in small groups of a few families each. They are timid and fearful of approach, and yet to a certain extent are feared by the more civilized inhabitants of the islands. The distribution of these Negritos has been studied by Meyer, but recent correspondence conducted by the bureau reveals their presence in several hitherto unrecorded regions. It has been invariably stated that their numbers are dwindling, and recent estimates have placed them as low as 10,000, but the bureau's correspondence and field investigations seem to indicate that they are at least holding their own at the present time, and no less than 30,000 have been accurately reported to us from all parts of the islands.

The number of problems presented to the ethnologist by these little blacks is almost bewildering. What place have they in the evolution of man? Their identity with the Sakais of the Malay Peninsula, and the Mincopies of the Andaman Islands, is almost certain, but what is their relation to those other pigmies—the dolichocephalic dwarfs of Central Africa? And further, what may be their connection with the true negro race of Melanesia, almost contiguous to them? The geographic distribution of the Negritos is such that we must conclude that at one time they were practically the sole possessors of the Philippine Archipelago; and unquestionably the first to arrive and to dispute their possession of the soil and to drive them into the mountainous interiors which they now occupy were the tribes of primitive Malayans which still constitute the most considerable element of the Non-Christian population of the islands. Blumentritt believes in two successive waves of these Malayans of low culture, and he attempts to fix approximately the periods of their migration. Among such tribes are the great Igorrote family of the Cordillera Central of Luzon, the Tinguianes, Dadyags, Calingas, and numerous others, of whose tribal affiliations we at present know nothing. Certain tribes, like the Ifugao, appear to be mixed Negrito-Malayans, but the frequently met with hypotheses of Chinese and Japanese admixture in certain tribes of northern Luzon appear to me to be questionable; nor do I see any reason for believing in the two-migration theory of Blumentritt as applied to these primitive Malayans. The most we can affirm at present is that the great mountainous mass of northern Luzon is occupied by numerous tribes speaking different dialects of common Malayan origin. These tribes are on a similar culture plane with the primitive Malayan tribes of the Malay Archipelago, such as the Dyaks of Borneo and the Battaks of Sumatra. They have the same barbarous practices of head-hunting and ceremonial cannibalism, and wage the same community feuds. The inference is strong that all arose from a common migratory movement and belong to a common culture epoch in the history of Malayan peoples. The same element is probably represented in the central and southern islands of the archipelago, as well as in northern Luzon. The mountains of nearly all the Visayas contain,

besides roving bands of Negritos, communities of wild Malayans. These peoples bear different names in different places: "Igorrotes" on Mount Isarog, "Buquidnon" in Panay, "Babylanes," "Pulijanes," and "Mundos" in Negros, elsewhere "Montescos" and "Remontades." The origin of these groups may be twofold. Some of them may be remnants of the primitive Malayan folk here previous to the coming of the Filipino tribes now Christianized, and, as such, they would be grouped with the tribes of northern Luzon. But it is probable that certain bands are made up simply of Filipinos who have fled to the mountains from the more ordered life of the plains. Outlawry or expulsion is the common form of punishment among all Filipino peoples, and to break from the associations of ordered and civilized life is the unvarying habit of the man who has inflicted injury, or who has himself been wronged. In the history of the Spanish administration entire towns have been depopulated through this practice of their inhabitants. The outlaw—"filibuster" or "tulisan"—is an ever-present type of Malayan society.

The primitive and exceedingly interesting tribes, the Tagbanuas of Palawan and the Calamianes Islands and the Manguianes of Mindoro, would seem to be of Malayan and Negrito stocks commingled. Many of the tribes of Mindanao are also probably referable to this early Malayan immigration, particularly those of the northern and western provinces. But in the vicinity of the Gulf of Davao and Mount Apo, eastern Mindanao, we encounter tribes whose character raises one of the most interesting problems in ethnology. Among these are the Guiangas, Atas, and Tagabanas. They are reported to be very tall in stature, with hair wavy rather than straight, a narrow and prominent nose, and color of skin approaching that of the Polynesians. Obviously, these are not the physical characteristics of the true Malay. If thorough investigation proves the existence of this type, we must conclude that we have another non-Malayan element in the population of the archipelago. Perhaps the first to call attention to the character of these tribes was Montano, who some 25 years ago visited the coast of Davao and ascended Mount Apo. Following the theory already developed by Hamy and other French writers, he calls these "Indonesian." The whole Indonesian theory is ignored by Blumentritt and other German writers, but within the last few years it has received the warm assent of the English ethnologist, Mr. A. H. Keane. But Mr. Keane is certainly far in error when he refers to the Indonesian element the Igorrotes and other tribes of northern Luzon. These latter, by every test, physical, linguistic, and cultural, are Malayan.

There still remain two of the most important divisions of the population of the Philippines. These are the seven great tribes of Christians which form politically and socially the Filipino people, and the Mohammedan Malays, or Moros of Mindanao and the Sulu Archipelago. The 7 Christian tribes are the Visayans, occupying the central islands and the northern coast of Mindanao, the Bicols of the southern extremity of Luzon, the Tagalos of central Luzon, the Pampangos and Pangasinanes of the central plain of the island, the Ilokanos of the northwest coast, and the Ibanag of the Cagayan valley. The 7 tribes almost certainly represent a Malayan migratory wave subsequent to that of the primitive Igorrotes and comparable tribes. On the arrival of the Spaniards they were already occupying the coasted plains and river valleys, having forced back into the interior the less-cultured tribes which had preceded them. The languages of these groups, while differing widely in their vocabularies, show a common Malayan source and a uniform structural basis. At some time and place at least several of these tribes felt the contact of the Hindu civilization, which, subsequent to the Christian era, flourished in Java and the Malay Peninsula. From this source they acquired alphabets, the knowledge of writing, and other arts of civilization, which considerably elevated them above the plane of the interior tribes. A Sanscrit element, especially in the Tagalog, as has been shown by Dr. Pardo de Tavera, exists in these languages.

Of all the pre-Spanish peoples of the Philippines, the last comers are the Mohammedan Malays. We can readily fix the time of their arrival as subsequent to the XIII Century. For the Mohammedan Malay, so prominent in the history of the Eastern Archipelago as colonist, trader, and pirate, whose speech is the *lingua franca* of all Malaysia and the Indian Ocean, and who has given his name to, and stands as the type for the entire race, was, previous to the XII Century, only an obscure tribe of Sumatra. The conversion of this people to Mohammedanism by Arabic missionaries in the XII Century appears to have given them the power and passion which has made them dominant everywhere south of the Visayan Islands of the Philippines. They arrived in the Sulu Archipelago probably between 1300 and 1400 A.D. And upon the coming of the Spaniards in the XVI Century their fleets of praos were filling the Mindoro Sea and sweeping the Straits of San Bernadino, while their outposts and settlements reached to Manila Bay. The Spaniard checked their further progress in the Philippines, though he utterly failed after centuries of conflict to reduce them to Christianity or obedience to the Spanish Crown. Their history is the climax of Malay piratical power and the scourge of the Maguindanao sea rover was felt for centuries for 1,000 miles both north and south of their strongholds in Jolo and Lanao.

**DR. JOHN P. PETERS' ACCOUNT OF HIS VISIT TO AND EXPLORATIONS IN PALESTINE:** Last summer, from the beginning of June until the end of September, I spent in Palestine, visiting, so far as possible, all sites excavated or considered desirable for excavation. The Turks are building a town at Beersheba, and, in doing so, have unearthed remains of a town of the Byzantine period, but nothing older.

In examining the sites excavated by the Palestine Exploration Fund in the Shephelah,—es-Safi, Zachariah, Judeideh and Sandahannah,—I was much impressed by the incompleteness of the excavations; that no one spot was thoroughly excavated. In the neighborhood of Sandahannah the natives have been robbing graves by the wholesale and have discovered the necropolis of Marissa or Mareshah. Dr. Hermann Thiersch, of Munich, and I had the good fortune to be the first to learn this, and by that means became the discoverers of some interesting painted tombs of the Ptolemaic period of the III and II Centuries B.C.

Dr. Bliss, in his account of the excavations at Zachariah, seems inclined to identify Zachariah with the ancient Socoh. I visited Suweikeh. The position is one of great strategical importance. There were rock-cut steps at one point, ascending to a door in the remains of a wall built of huge stones. Not far from this were a few columns of the Roman period or later. On another side were terraces and fragments of walls. Nothing above ground is necessarily of earth date. From this fact and the apparent shallowness of the débris, Dr. Bliss reached the conclusion that ancient Socoh is not likely to have stood here. The evidence of the name in connection with the strategical importance of the position and the extent of the remains, which is considerable, lead me to suppose that, unless it be proved to the contrary by excavations, this is the site of ancient Socoh, in which case Zachariah would be Azekah and es-Safi Gath. These are the three strategical positions on the wady Sunt, the ancient Vale of Elah.

I also visited the Germans at Baalbek and Jerash. I am afraid that the slight excavations which they have conducted at the latter point will only tend to accelerate the destruction of Jerash by the Circassians. The change which had taken place in the ruins since my last visit, 12 years ago, was considerable, and some columns have actually been blown up with gunpowder.

At Abu-shusheh, the ancient Gezer, the Palestine Exploration Fund began excavations in the month of July. The intention is, profiting by past experience, to explore this mound completely, from one end to the other. Fortunately, through the kindness of the administrators of the Bergheim estate, to which the property belongs, they are not compelled to fill up the trenches excavated, and all the more important finds are preserved *in situ*. The most interesting and important find made before my departure was that of a very ancient megalithic temple.

I visited the Austrian excavations at Ta'anuk, the ancient Ta'anach, on the plain of Esdrælon. The work done here by Dr. Sellin was imperfect and unsatisfactory. The tel should have been excavated throughout. Relatively a small part only has been excavated. It will be time to criticize Dr. Sellin's work more in detail when his results are published. The Germans have obtained permission to excavate Tel Mutasselim, generally supposed to be the ancient Megiddo, a short distance to the west of Ta'anuk.

**DISCOVERY OF AN INTERESTING EGYPTIAN TOOL:** A remarkable instance showing the parallel between ancient and modern tools and also showing the knowledge the Egyptians had in working, hardening and resistance in construction, is found in an Egyptian cold-chisel dating back to the Theban dynasties. It is formed of a hard bronze blade whose present thickness is 0.12 inch and width 0.72 inch. The cutting bevel is made at an angle of 60 to 65 degrees. This hard alloy is inserted in an outer covering or sheath of soft and malleable bronze 0.6 inch thick which covers it up to the cutting edge. This outer sheath has been either used as a mold for the central part or been added outwardly by hammering at a high temperature. In any case it is effective in giving the hard and brittle metal of the tool the elasticity necessary for receiving the shocks of the hammer. This artifice is analogous to that used at present in automobile construction for obtaining parts which are resistant alike to wear and to shocks; the pieces are made in soft steel and the parts exposed to friction are hardened by cementation. The non-cemented part preserves the elasticity of the piece, which if entirely hardened would be too brittle. In this case the soft steel is in the interior, while in the Egyptian tool the soft bronze is on the outside. The sheathing, unlike the central core, is of a laminated texture. The surface which separates the two alloys is marked by a black oxide, often stained with verdigris. The two alloys were separated, and, after cleaning, were found to have different densities. The envelope, although more oxidized, gives d=5.33 and the core d=5.18. This anomaly showed that the former is richer in copper than the latter, as was proved by analysis. If a part of the tool is reduced by hydrogen near 500 degrees C., the envelope takes a red copper-color and the interior is a buff-yellow. The following shows a composition of the bronzes which compose the two parts. After cleaning, the alloys were first reduced by the blow pipe and found to lose in each case about 15 per cent. of oxygen and 3 or 4 per cent. of carbonic acid, sulphur, chlorine, etc.

The hard bronze contains less copper and considerably more tin than the soft. The presence of chlorine and sulphur is due to the earth in which the tool had been buried. The lime and potash seem to come from the ashes of the fire which melted the alloy, for after reducing the powdered metal by hydrogen and treating with boiling water the solution sometimes turns red litmus to blue. The lime is thus in the free state and the potash in the form of carbonate.

# RECORDS OF THE PAST

VOLUME II FEBRUARY, 1903 PART II

Volume II

# RECORDS OF THE PAST

Part II

REV. HENRY MASON BAUM, D.C.L.
Editor

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NIPPUR FROM THE NORTH, TOWARD THE CLOSE OF THE SECOND YEAR

# RECORDS OF THE PAST

VOL. II PART II

FEBRUARY, 1903


## THE UNIVERSITY OF PENNSYLVANIA'S EXPEDITION TO BABYLONIA

### EXPLORATION OF NIPPUR*

BY THE REV. JOHN P. PETERS, PH.D., D.D.

THE first American expedition to Babylonia, under the control of the American Institute of Archæology, and led by Dr. William Hayes Ward (called the Wolfe Expedition, because its expenses were paid by the late Miss Catherine Lorillard Wolfe of New York), was sent out in 1885 to explore the country, and report on the possibilities of excavation and the places where excavations should be conducted. It was my good fortune to secure the funds for this expedition, and after its return I endeavored to secure the means to follow up Dr. Ward's work by actual excavations in Babylonia, but interest seemed to lag, and it was not until 1887 that I was able to accomplish anything further. In the summer of that year I chanced to meet Mr. E. W. Clark, a banker of Philadelphia, who at once interested himself in the good cause. He and his brother, Mr. Clarence H. Clark, Mr. W. W. Frazier and other Philadelphia gentlemen agreed to con-

*I have been asked to prepare for RECORDS OF THE PAST an account of the conception and organization of the work at Nippur, and, in general, of the results of that work during the time I was director of the expedition. This ground is already covered much more in detail in my work entitled *Nippur;* or *Explorations and Adventures on the Euphrates,* Putnam's 1897. To this work I refer those who wish to read the story in greater detail.

John P. Peters.

tribute toward an expedition to Babylonia, of which I was to be director. It was proposed to the University of Pennsylvania to make this expedition the University of Pennsylvania Expedition to Babylonia, on condition that the University should provide a fire-proof building for the reception of any objects which might be secured. This condition was accepted, and Dr. William Pepper, then Provost of the University, was made President of the Committee.

Our original plans were very simple. I had intended to take with me only one other person, but, as applications for positions on the expedition came in and interest in the work was aroused, it was decided to change the original plan and increase the staff. Mr. J. D. Prince, now a professor in Columbia University, was accepted as a volunteer, paying his own expenses, and given the position of secretary to the director. Mr. R. F. Harper, now a professor in the University of Chicago, then an instructor at Yale, was made assyriologist, and Mr. Perez Hastings Field, formerly of Columbia, then at *L'Ecole de Beaux Arts* in Paris, was appointed architect and engineer. Mr. John Henry Haynes, who had been on the Wolfe expedition, was selected for the position of business manager and photographer, and Mr. Daniel Noorian, who had been with Dr. Ward on the Wolfe expedition, as an interpreter and director of diggings. Later, Prof. H. V. Hilprecht of the University of Pennsylvania was added as a second assyriologist.

This expedition left the country in the summer of 1888, but many months elapsed before permission to excavate could be obtained from the Turkish Government, and it was not until December of that year that the party started from Aleppo for Bagdad. We had the good fortune to discover on our way down the Euphrates the site of the ancient Thapsacus or Tiphsah. At Bagdad further delays were interposed by the Turkish authorities, and it was not until February 6, 1889, that excavations actually commenced on the mounds of Nufar, the ancient Nippur. At the end of a little more than 2 months our work was brought to a tragic close. One of the *zaptiehs*, or *gens d'armes* assigned to us as a guard by the Turkish Government shot and killed an Arab of the neighboring Es-Sa'id tribe, who was trying to steal our horses and mules. It was with great difficulty that we and our Turkish guards were able to escape from the country alive. Our camp and half our horses were burned, and we were robbed of $1000 or more in gold. Fortunately, such objects as we had found in the first year's campaign we were able to carry with us to Bagdad. All the members of the expedition at once handed me their resignations or sent the same to the Committee in Philadelphia. It must be frankly confessed that up to this point the expedition was not a success. We had the good fortune to purchase some collections of antiquities in London and Bagdad, but the objects found by us at Nippur were not numerous nor of very great importance.

I returned to America to report to the Committee. The judgment of the members of the expedition, as contained in letters to the Committee, was not favorable to the continuance of excavations at Nippur. My judgment was that we should continue the work at Nippur, and the Committee directed me to return and resume excavations there, provided that, within a reasonable time, I could arrange with the Turkish Government to return to the place; otherwise, I was to close up matters and bring the Expedition to an end. It was with great difficulty and only after considerable delay that the Turks consented to my return, and even after the obstacles at Constanti-

nople had been overcome, difficulties were placed in my way by the local officials. For the second campaign I engaged in the same positions as before Mr. Haynes, who had remained at Bagdad as Consul, and Mr. Noorian, who had remained with him. Later I secured the services for a month or two of an engineer, Coloman d'Emey, a Hungarian by birth. I had with me also in the second year, a precaution due to the outbreak of cholera in Babylonia, a physician, a graduate of the American College in Beirout, Dr. Selim Aftimus. It had been arranged that, in addition to his medical duties, Dr. Aftimus should make natural history collections. Unfortunately he was taken ill with typhoid on the day of our arrival at Nippur, and was with great difficulty returned to Bagdad alive.

Our excavations in the second year lasted about 4 months, and we employed an average of more than twice as many men as we had done in the first year. Naturally also, the knowledge and experience obtained in the first campaign enabled us to make our work much more efficient than we had done in the first year. In the mere amount of cubic feet excavated, the second year's work was very many times larger than that of the first year; and our success in finding antiquities was as pronounced in the second campaign as our lack of success had been in the first. It is estimated that some 8,000 inscribed objects were found in this campaign, including the oldest Babylonian inscriptions theretofore discovered anywhere. The extent of the mounds was so vast that a considerable portion of our digging was necessarily of an unsystematic character, rather of the nature of tentative exploration. By far the largest excavations were conducted on the site of the ancient temple of Bel-Enlil. The discovery on the southeast side of the *ziggurat*, or stage tower of that temple (*E-kur*, or Mountain House, by name), in a deep boring, of a vase bearing in very archaic characters the name of a king, Alusharshid or Urmush, then quite unknown, led me to commence systematic explorations at that point, removing the earth over a large section layer by layer, so that we might follow the strata. But so great was the amount of material to be removed that I succeeded in reaching the virgin soil at only one place. The development and extension of this work of systematic excavation was to be left to my successors. I do not mean that this was the only trench in which the ruins were carefully excavated layer by layer. The greatest care was exercised everywhere in the exact location of objects found and the determination of the archæological stratification of the mounds. Further a number of trenches were undertaken at various parts of the huge mounds, which were carried down to a great depth, the earth being removed layer by layer, but none of these yielded such results as to lead us to extend the trenches to undertake the complete excavation of those parts of the mounds.

Haynes left Nippur in April 1890. Noorian and I remained a month longer, until May, and then made a journey of exploration southward, which lasted another month, for the purpose of examining various other ruins. We had the good fortune to bring back from this expedition a number of valuable inscriptions and some important information.

It was a year before the objects found in the second campaign were delivered at Constantinople. In the meantime the home Committee made a continuance of work dependent upon obtaining such a portion of the objects found as should, to some extent, compensate them for the large outlay of money incurred. After the objects reached Constantinople, in the spring of 1891, I was sent back to negotiate with the Turkish authorities

OUR CAMP ON THE PLAIN SOUTHEAST OF NIPPUR, SECOND YEAR

for a partition and also to examine and study more carefully the objects excavated, securing photographs and squeezes of anything of value which should remain at Constantinople. This was a work of some months, occupying the summer and autumn of 1891. Ultimately the Turkish Government made a very handsome donation of objects found. This gift was announced as given to me personally, on account of my services, the risk and danger which I had undergone, etc. As later donations have been made to Professor Hilprecht in similar terms, it would almost seem that this is a set form used in such gifts of antiquities made by the Turkish Government, in order not to establish a precedent of giving to institutions or organizations conducting excavations a portion of the objects found.

It was the winter of 1891 before the objects found in the excavations of 1889 and 1890 finally reached Philadelphia. This long delay so discouraged the home Committee, that it was some time before steps were taken to resume the work at Nippur. Finally, in 1893, Mr. Haynes, who had in the meantime resigned his consulate at Bagdad and returned to this country, was sent out to conduct another campaign in the field. The arrangement made was that Mr. Haynes should report directly to me and receive his instructions through me. The plan of excavations which I drew up and which Mr. Haynes in general followed, provided for the continuance of the systematic excavations of the Temple begun by me. At the same time he was to continue and enlarge the work in those mounds in which we had found any considerable number of inscribed tablets, and excavate more fully at two places where we had discovered buildings which seemed to be of some importance.

Mr. Haynes went out alone, but was afterward joined by Mr. Meyer. The latter died in the field, and during the greater part of the 3 years' work of the second expedition Mr. Haynes was entirely alone. As a result of my experience in Babylonia, I had recommended to the Committee that excavations should be conducted summer and winter alike. Mr. Haynes had seconded this recommendation and his was the first continuous excavation ever conducted in Babylonia, winter and summer. It was certainly a very trying, difficult and even dangerous task. He was eminently successful in the discovery of objects, especially inscribed objects, of great antiquity. Professor Hilprecht estimated these objects as numbering 30,000 or more.

In 1898 Mr., now Dr. Haynes, was again sent out by the Committee. Of the details of this third expedition I cannot speak with exactness, as I ceased at that time to be a member of the Committee. In 1900 Dr. Hilprecht was sent out to bring the excavations to a close. He arrived just as Haynes had discovered on the hill south of the temple, in which we had previously found a large number of tablets, the great deposit of tablets which has been announced as the "Temple Library." Thus Professor Hilprecht, who had been 2 months with the expedition to Nippur in the first unsuccessful year, had the great good fortune in the 2½ months which he spent at Nippur at the end of Haynes' last expedition, to see the mounds which had proved so recalcitrant before yield precious tablets by the thousand.

Such in brief is a summary of the history of the work in the field. I have of necessity passed over the home work, the work of publication, and the work done by Dr. Hilprecht in Constantinople, in cataloguing and studying the objects found by Haynes and securing a favorable partition from the Turkish Government.

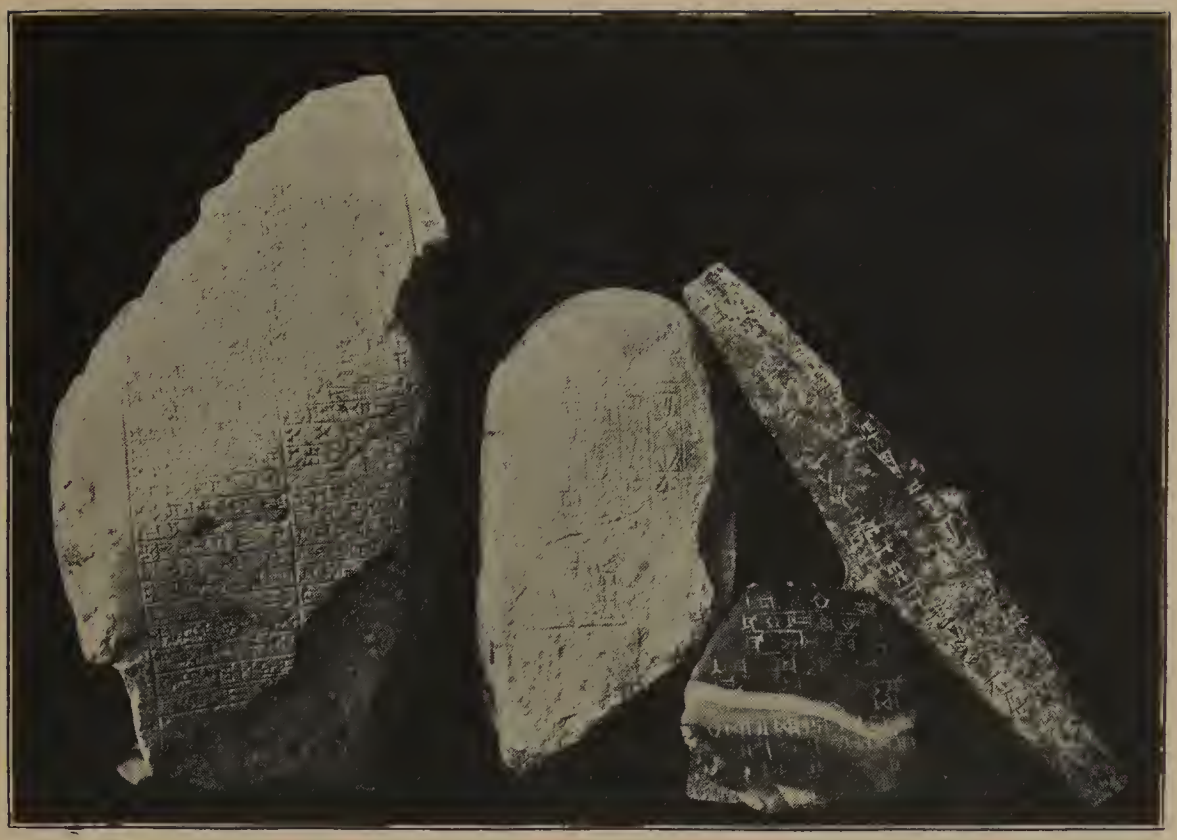
And now as to the results of this expedition:—The excavation of the Temple of Bêl, although not yet complete, has given us a very fair idea at least of the character and construction of an ancient Babylonian temple, with its elevated platform on which stands a ziggurat, its courts, chambers and the like. We have also obtained a better idea of the relation of the Temple to the community life than was possessed before and of the history of the growth and origin of Babylonian temples and the influence of those temples on the Hebrews and other Semitic peoples. Incidentally our excavations have thrown light on the Babylonian religion and Semitic religion in general. The inscriptions found in the excavation of the temple, and in the excavations in other parts of the City, have enabled us to write a fairly consecutive history of this most important temple and of the City itself from a period about 3,000 to 3,500 B.C. (according to some about 4,000 to 4,500 B.C.) onward; and the history of Nippur has naturally thrown much light on the history of Babylonia as a whole and of the civilization which originated in or was propagated from the Tigris and Euphrates valley during the same period, the more especially as Nippur was the most ancient and important sacred city of Babylonia. The excavations at Nippur did, in fact, carry back our knowledge of the culture and life of this region 1,000 or 2,000 years. We found the names and inscriptions of kings hitherto unknown. We restored to history, if I may so say, Sargon the First of Agade (oddly enough, at the very time that we were excavating the inscribed door-sockets of this king, Hugo Winckler of Berlin was publishing a book in which he declared that Sargon was a myth), and showed that, so far from standing at the beginning of Babylonian history, Sargon in reality

FROM A CAST OF THE MOUNDS OF NIPPUR BY MURET, OF PARIS, FROM THE PLANS OF MR. FIELD AT THE CLOSE OF THE FIRST YEAR'S WORK

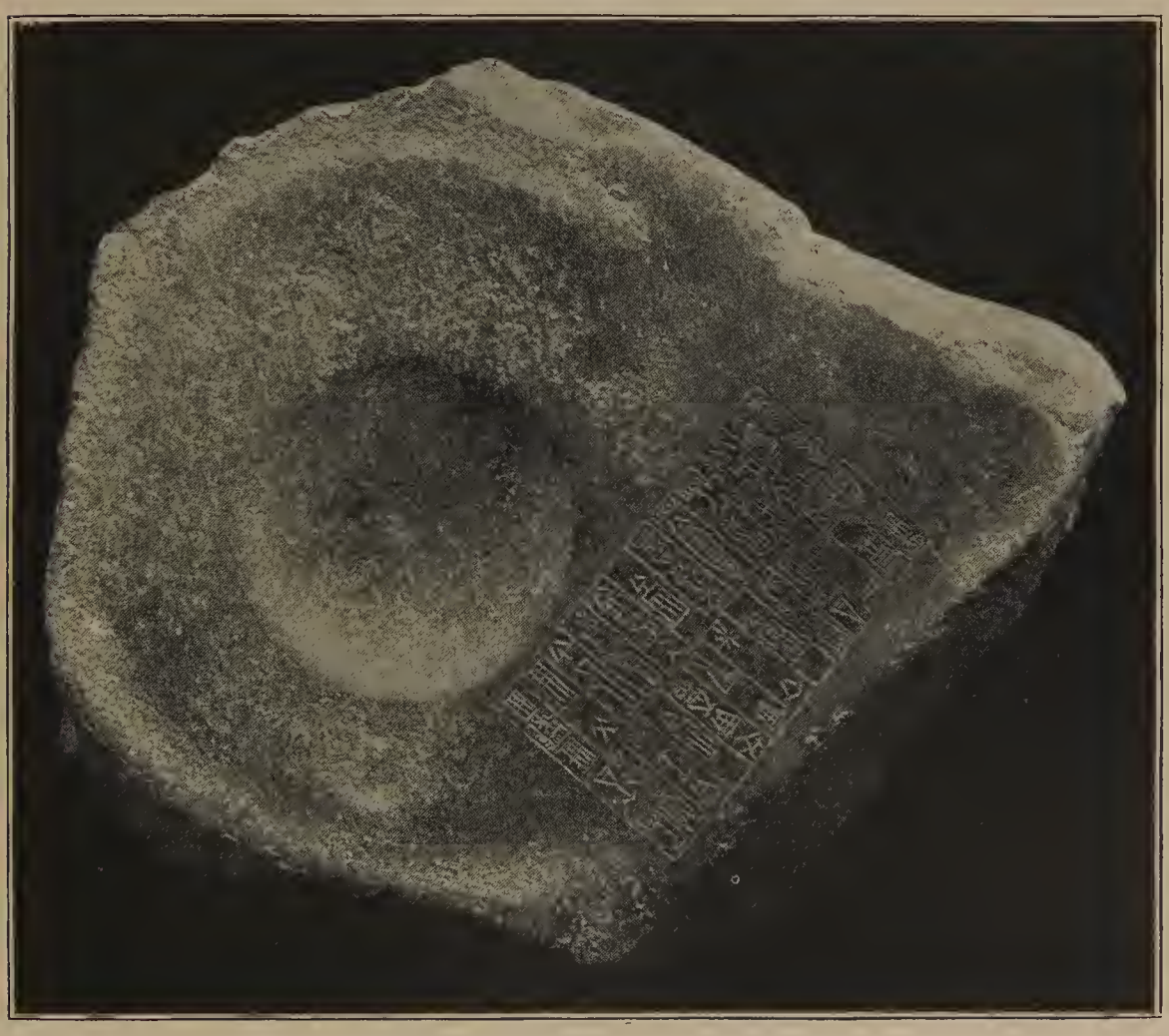
EXCAVATIONS ON TEMPLE HILL, SECOND YEAR. THE VISIBLE WALLS ARE THE REMAINS OF THE SELEUCIDAN CITY

1 AND 6. CLAY FIGURES OF BEL-ENLIL, C. 2,500 B.C.; 2. EGYPTIAN FIGURINE IN GREEN PASTE; 3. GREEK TERRA COTTA, COLORED; 4. FIGURE OF A DOG; 5. OBSCENE FIGURINE

SHOW CASE AND MEDICINE JARS (?) FROM JEWISH APOTHECARY (?) C. 600 A.D.



INSCRIBED OBJECTS OF CASSITE PERIOD, C. 1,400 B.C., LAPIS LAZULI, AGATE AND FELDSPAR



DOOR-SOCKET OF SARGON I, KING OF AGADE

stood nearer the middle; in the excavations on the temple mound, his remains were found about half-way down. With regard to the date of this king, it is worthy of note, by the way, that the evidence from the excavations at Nippur tends to discredit the traditional date of 3,800 B.C. His remains and those of his son, Naram Sin, were found immediately superimposed upon those of Ur Gur, king of Ur, to whom is commonly assigned a date between 2,700 and 3,000 B.C.

The inscriptions found in the temple mound, belonging, as said above, to kings whose names were heretofore unknown, such as Alusharshid or Urmush, Lugal-Kigubnidudu, Lugal-Zaggisi, ante-date Sargon by an uncertain time, a time which we can only conjecture from the palæographic evidence and the difference of strata. But before the earliest of these inscriptions a civilized, city-building people inhabited this site, and the same temple site was the central place of their worship of the deity. From the excavations at Nippur and from other considerations, it has seemed to me that we must ascribe the foundation of this City and temple to a period not later than the VII Millennium B.C.

Of the relation of the worshiper to the gods we found some curious evidences in votive tablets, votive vases and various other votive objects of different and often peculiar forms and shapes. We found also evidences of the use of statuary in connection with the Temple, as at the ancient Shirpurla, and of an art history resembling that of Shirpurla. The destruction of these objects of art, for they were all found in fragments, and the destruction which befell the temple at various periods, are land-marks of wars and invasions. One most curious little "find" will illustrate the side-lights which our discoveries threw on the culture and commercial relations of the very ancient world outside of Babylonia. In one room of the ruins of a building in front of the Temple and close to its great southeastern entrance, a wooden box, some 3 feet square, had contained a variety of votives, some complete, some in the course of manufacture, and in addition material for the manufacture of other similar objects. Among these were a number of inscribed glass axes colored with cobalt, which cobalt must have come from China, a quantity of lapis-lazuli from Bactria and magnesite from the Island of Eubœa, thus revealing a commercial intercourse in the XIV Century B.C., extending from China on the east to the Ægean Islands on the west. The glass we know was highly prized and used in royal presents, such as were interchanged between Babylonia and Egypt. The same may have been true of the magnesite, most of which had been manufactured into votives of knob-like and columnar shapes, never found before. (More recently votives of this shape have been found by de Morgan in Susa.) There was also, among other objects in the box, an agate votive, which contained on one side an inscription to Ishtar of Erech by Dungi, king of Ur, and on the other an inscription of Kurigalzu II, king of Karduniash. According to the latter, Kurigalzu had found this tablet in the land of Elam, into which he had evidently conducted a successful expedition, and brought it back and dedicated it to Beltis at the Temple of Bel-Enlil. The time intervening between the two inscriptions is about 1,500 years, and the little agate tablet bears witness to the hostile relations existing between Elam and the Babylonian cities, which extended to the plundering of temples. Tablets found in other parts of the mounds have thrown considerable light on the chronology and general conditions of what is known as the Cassite period, occupying the greater part of the II Millennium B.C.,

BRICK STAMP OF SARGON I, KING OF AGADE

BRICK, ABOUT A FOOT SQUARE, OF ISHME-DAGAN, KING OF ISIN, C. 2,500 B.C. FROM TEMPLE OF BEL-ENLIL

as to which, we had before this very little information. Large numbers of tablets were found also from the period of the supremacy of Ur, in the III Millennium B.C. These reveal the relation of the Temple to the industrial and commercial life of the community, showing us the Temple as a great land-holder, a possessor of flocks and herds and other properties. Up to the present time nothing of direct historical or literary importance has been found in these inscriptions, but much that is valuable for chronology and that throws light on the actual life and customs of the people.

Besides the inscriptions there are, of course, a vast number of uninscribed objects, pottery, stone and metal utensils, etc., which throw light on the manners and customs of the people and reveal, in a general way, the conditions of civilization at all periods of the City's history. The study of these objects has not yet been so carried out as to give us a history of the progression of manufacture, nor can we yet tell with any certainty from the examination of a piece of pottery the period to which it belongs. In point of fact, the greater part of the pottery found at Nippur has been of a rude description, revealing much the same conditions from the earliest period onward. There are, however, some forms of pottery with a peculiar glaze or of a peculiar manufacture, presenting sufficiently characteristic marks to enable us to determine their period at a glance. The same is true of certain manufactures of bronze.

The investigation of a large number of graves has revealed to us, also, the burial customs from certainly 2,500 B.C. onward. In view of recent discoveries in Palestine it is interesting to note that in earlier times the object in interment was to put the whole body in some receptacle, an urn, a jar or a piece of pottery especially constructed for receiving the remains of the dead, but that no effort was made to preserve the body intact. From this form of interment, which prevailed also in the earliest Semitic burials in Palestine, we progressed steadily at Nippur to a reverent care for the body of the dead and the endeavor to preserve it intact, at least among the more wealthy classes. In the burials at Nippur, also, we found no period of cremation. From the outset burial is by interment, although food and other objects which are placed by or about the dead may be burned. This again is interesting, in view of recent discoveries in Palestine, where, while the pre-Semitic inhabitants made use of cremation, the Semitic method of disposal of the dead was from the outset, by interment.

It must be understood that this summary covers fully only the results of the excavations conducted by me on the field in the first 2 years, with the partial use of the excavations of Dr. Haynes in the first of the two expeditions in which he was field director. There has been as yet no publication of the results of Dr. Haynes' work in either of the two expeditions which he conducted. Public announcement was made of the publication of the narrative of the first expedition by Wattles & Co., of Philadelphia, but later the announcement was withdrawn and no information has since been furnished with regard to the proposed publication. It is very much to be regretted that the University of Pennsylvania has not seen its way to a speedy publication of results, after the method of the Egyptian Exploration Fund or of de Morgan's expedition in Persia, or of regular periodical publications, like those issued by the present German Expedition to Babylon, or the Palestine Exploration Fund. Such publication would be of great value to the scientific world and of much interest to the public.

# PROFESSOR HILPRECHT'S RECENT EXCAVATIONS AT NIPPUR*

BY PROF. ALBERT T. CLAY, PH.D.

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ONE of the most important contributions to Archæology is Prof. Hilprecht's "Explorations in Bible Lands," which has just appeared. The author in the preparation of his volume has had the co-operation of well known, leading scholars of German Universities with a view of presenting the vast material authoritatively, and yet in a popular form, to meet the great demand for a reliable work on the subject for Bible scholars as well as students of ancient history. The leading part of the work, which is really a volume within a volume, is by Professor Hilprecht on *The Resurrection of Assyria and Babylonia.* This is followed by the section on *Palestine,* written by Dr. Benzinger, formerly of the University of Berlin; *Egypt,* by Professor Steindorff, of the University of Leipzig; *Arabia,* by Professor Hommel, of the University of Munich; and the *Hittites,* by Professor Jensen, University of Marburg.

The volume gives the first complete history of the epoch-making results of the Babylonian expedition of the University, by its scientific director, Professor Hilprecht. This is the special feature of the work, as here for the first time is presented a thorough treatment of all the many important discoveries made at Nippur in connection with the excavations of the great Temple of Bêl and its storied-tower; the Temple Library, with its educational and literary quarters; the walls and gates of the city, its palaces and business houses.

The first expedition was organized largely through the instrumentality of Professor J. P. Peters, who was ably supported by the former Provost, Dr. William Pepper, and by Provost Harrison, Mr. E. W. Clark, Mr. C. H. Clark, Mr. W. W. Frazier and other influential citizens of Philadelphia. Professor Peters was the director of the first and second expeditions. Professor Hilprecht and Professor Harper were the Assyriologists of the first expedition and Mr. Field accompanied it as architect. Dr. J. H. Haynes, who had been business manager of the first campaign, accompanied Dr. Peters in a like capacity in the second campaign, but the latter had with him neither an assyriologist nor architect. The two expeditions conducted by Dr. Peters were engaged in excavating for 2 months and 9 days and 3 months and 11 days respectively. Dr. Haynes was field director of the third expedition, and was assisted for a short while by Joseph H. Meyer, an architect of the Massachusetts Institute of Technology. He remained at the mounds of Nippur for nearly 3 years continuously. The staff of the fourth and last expedition consisted of Professor Hilprecht as scientific director, Dr. Haynes as field director, and Mr. C. S. Fisher and H. V. Geere, architects. This expedition remained in the field about 16 months during the latter part of which time, when Professor Hilprecht directed the work in person, most of the important and epoch-making results were obtained.

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**Explorations in Bible Lands During the Nineteenth Century.* Edited by Prof. H. V. Hilprecht, Ph.D., D.D., LL.D. Babylonian Section. University of Pennsylvania. Illustrated. Octavo, pp. 893.

Professor Hilprecht was therefore at the ruins of Nippur only on the first and last campaigns. But while his labors on the mounds were thus limited to a short time, it was through his accomplishments from the very beginning of the excavations that they have become so renowned throughout the world. His determination of the different antiquities; his decipherment of the inscriptions and his restoration of the early history of Babylonia have made his name familiar to almost every intelligent person of this decade. While others used the spade they were largely dependent upon Professor Hilprecht for the interpretation of what they had discovered. It was through his sacrificing labors, summer after summer in Constantinople, in the interests of the Turkish Museum, classifying and deciphering the material deposited there, that the collections of the University of Pennsylvania were enriched by many thousands of antiquities, which were presented to Professor Hilprecht, because he declined the liberal remuneration offered him for his services by the Turkish Government.

The excavations conducted prior to Professor Hilprecht's arrival at Nippur on the last campaign were characterized by the number of cubic feet of débris removed and the number of valuable antiquities discovered. It was frequently impossible to combine the details of the discoveries given, and to obtain even a moderately accurate idea of what was going on, so that the Committee in Philadelphia urged Professor Hilprecht to go to Nippur and superintend the work in person. It was not until the middle of November, 1899, after he had finished the organization of the Semitic Section of the University Archæological Museum, that he could leave for the East for the purpose of taking charge of the work.

In this work by Professor Hilprecht a very complete and satisfactory account of the many discoveries is given. Through his recent investigations in the trenches and his decipherment of the inscriptions discovered the reader of this important contribution to Archæology is impressed with the fact that practically everything heretofore published concerning the architectural features and the true significance of the Babylonia temple, etc., must be changed. Among some of the most important of Professor Hilprecht's recent achievements are the following:

### PARTHIAN FORTRESS

On the first campaign when the excavators were digging in the upper stratum they came upon a large structure, the striking features of which were immense buttresses and two round towers. Professor Hilprecht's colleagues failed to agree with him when he determined it to be a fortress of the late period built upon the temple. They declared it to be a late restoration of the temple itself. Professor Hilprecht now proves that his former view was correct, and that in the Parthian period some foreign people built upon the old temple of Bêl and its storied tower a large fortress. Most important antiquities were discovered in some of its chambers built into its walls. The architect of the last expedition offers a very satisfactory plan of nearly the entire building. The dump heaps, however, raised upon part of its ruins were so high that the complete excavation of this fortress had to be deferred.

### TEMPLE OF BEL

A very important fact was determined in connection with the temple excavations. "The stage-tower did not occupy the central part of the tem-

A. V. Williams

ple court," and while it was the most prominent feature of the temple area, it was not the temple proper as others had inferred. An extensive structure alongside of the ziggurrat, covering an area almost as great in extent, represented the "house of Bêl" itself. In other words, the wall of the inner court of the temple Ekur inclosed besides the ziggurrat, the temple proper, "where sacrifices were offered and the most valuable votive offerings of the greatest Babylonian monarchs deposited." This building at the side of the ziggurrat existed as early as the time of Sargon I [3,800 B.C.] and Naram-Sin [3,700 B.C.]. From the inscribed and sculptured objects found in proximity to its sacred precincts, "an idea of the elaborate manner in which the temple of Bêl was equipped and embellished in early days" can be formed. Dump heaps also placed upon this structure by Professor Hilprecht's predecessors prevented him from examining little more than part of the walls of the building in the time at his disposal.

Adjoining the court of the ziggurrat and temple proper, Professor Hilprecht found sufficient evidence to show that a somewhat smaller, or outer court existed, where Dr. Peters in the early part of the excavations had discovered a little sanctuary. The bricks used in its construction were stamped with the titles of Bur-Sin. From a tablet found in a little museum or collection of antiquities belonging to an archæologist of Belshazzar's day (see below), Professor Hilprecht "learned that besides Bêl, at least 24 different other deities had their own 'houses' in the sacred precincts of Nippur." These the latter thinks should "be sought for in the outer court of Ekur."

### ZIGGURRAT IMGARSAG

The determination of the character of the storied-tower of Babylonian temples is another of Professor Hilprecht's recent accomplishments. Every temple, practically, had its tower. The *ziggurrat Babili* at Babylon was the Tower of Babel. Contrary to the view in the first place that these storied-towers of the various temples of the land had been introduced by Ur-Gur, 2,700 B.C., Professor Hilprecht has shown that they had their origin in the early Sumerian period, prior to 4,000 B.C. Four feet behind Ur-Gur's facing wall of the Nippur tower were found the bricks characteristic of the period of Naram-Sin [c. 3,750 B.C.]. Ten feet within the latter was found the smooth and plastered surface of a pre-Sargonic ziggurrat recognized as belonging to that early period by its peculiar crude bricks. This formed the kernel for the later construction.

### SUMERIAN CREMATIONS

A most important fact was determined by Professor Hilprecht in connection with what he found in the lower strata around the early ziggurrat, extending even beneath the construction of Naram-Sin. Everywhere were seen masses of fragments of pottery intermingled with ashes. The latter were the remains of bones and wood consumed by fire. Taken into consideration with the many beds of ashes reported by Haynes, the field director of the expedition, and also the results of the excavations at El-Hibba and Surghul, where Koldewey had found fire necropoles, Professor Hilprecht's investigations led him to the conclusion that the ancient Sumerians who occupied Nippur prior to the Semitic invasion also cremated their dead. "The thousands of urns discovered, as a rule badly crushed, but in some cases well preserved, are funeral vases, in which the ashes and bones

CASTLE BUILT BY EXCAVATORS FOR LIVING QUARTERS AND THE STORAGE OF RECOVERED ANTIQUITIES

EXCAVATIONS IN THE TEMPLE COURT TO VIRGIN SOIL

left after the cremation, together with objects once dear to the person, besides food and drink, were placed and buried." Haynes, during the third campaign, reported the discovery of an immense altar 14 by 8 feet, upon which were found several inches of ashes. This Professor Hilprecht now suggests was "one of the crematoriums on which the bodies of the dead were reduced to ashes."

The situation of these ash graves within the sacred inclosure and around the base of the ziggurrat—a position similar to that of the ash graves found by Koldewey at El-Hibba—led Professor Hilprecht to connect these burials with the ziggurrat itself. He, therefore, asks: "Were these stage-towers, like the step pyramids of Medum and Saqqara in Egypt in certain cases perhaps only especially important tombs?"

Two names for the stage-tower of Nippur have been known for some time: *Imgarsag*, "Mountain of the wind," and *E-sagash*, "House of the decision." On the recent campaign two inscriptions were discovered which when translated revealed to Professor Hilprecht two additional names for the ziggurrat: *E-gigunu*, "House of the tomb," and *Dur-anki*, "Link of heaven and earth." Professor Hilprecht asks: "How was it possible that the ziggurrat of Nippur, which constitutes the most prominent part of the whole temple complex, this huge towering terrace, which 'connected heaven and earth,' could appear to the Babylonians as 'the house of the tomb' at the same time?"

"Most of the names of Babylonian temples express a cosmic idea." Anu was god of the upper or heavenly ocean, Bêl's sphere of influence embraced the world, and Ea's region was the under world or the terrestrial ocean. Bêl's region was not only between that of Anu and Ea, but it practically included them. The ziggurrat of Bêl, or "the link of heaven and earth" is the "local representation of the great mythological 'mountain of the world,' *Harsagkurkura*, a structure the summit of which reaches into heaven [compare the story of Babel, Gen. 11 : 4], and the foundation of which is laid in the clear apsu, *i. e.*, in the clear waters of the subterranean ocean." On the one hand the shrine in which Bêl and his consort Bêltis resided "stood on the top of the ziggurrat," and was a "heavenly as well as terrestrial residence at the same time," and on the other hand, the foundation descended to *urugal*, "the great city," or *Arâlû*, "the abode of the dead," which "lies directly below and within the earth." "As *gigunû* 'grave,' 'tomb' is used metonymically as a synonym of *Arâlû*, it follows that the ziggurrat of Nippur, which is the local representation of the great mountain of the world, also could be called 'the house of the tomb' (E-gigunu). It was, therefore, only natural that the earliest inhabitants should bury their dead around the base of the ziggurrat, so that the latter appears to us almost like a huge sepulchral monument erected over the tombs of the ancient Sumerians who rest in its shadow." Professor Hilprecht further shows that the conception of the classical writers concerning the ziggurrat Babili as 'the sepulchre of Bêl' is correct and goes back to trustworthy original sources. The temple of Bêl therefore, "appears to us as a place of residence for the gods, as a place of worship for man, and as a place of rest for the dead," a conception expressed by churches of to-day, which contain tombs within their confines, or are surrounded by a grave-yard.

A radical change in the burial customs of the land is apparent about the time the Semites took possession of the country. Whether they transferred their cemeteries from the environments of the temples to districts outside

A. THE SUMERIAN CREMATORIUM; B. PRE-SARGONIC CURB; C. EARLY VAULTED DRAIN, FIFTH MILLENNIUM, B.C.

SHOWING THE DIFFERENT STRATA IN THE TEMPLE AREA

of the cities is not known. Professor Hilprecht declares that up to the present time it is not known how the Semitic inhabitants of Nippur throughout their history disposed of their dead. The several thousand coffins discovered all belong to the period which followed the Babylonian occupation of the country.

### TEMPLE LIBRARY

The locating and partial excavating of the famous Temple Library and priest school of Nippur has been pronounced "one of the most far-reaching assyriological discoveries of the whole last century."

It was on the first campaign that Professor Hilprecht in submitting his views on the topography of the northeast half of the ruins, pointed out an isolated hill as containing in all probability the Temple Library. He informs us that he requested the director to let him have 20 men for a few days in order to furnish the inscribed material so eagerly sought for, and adds:

Before noon the first 6 cuneiform tablets were in our possession and at the close of the same day more than 20 tablets and fragments had been recovered. . . . . At the end of February several hundred tablets and fragments had been obtained from the same source and 6 weeks later, when our first campaign was brought to a sudden end, the library mound had yielded more than 2,000 cuneiform inscriptions from its seemingly inexhaustible mines. . . . . But time and money were now lacking, and other circumstances arose which forced us to evacuate Nuffar before many weeks were over. Otherwise we could not have failed to discover in 1889 those tablet-filled rooms which were unearthed 11 years later, when the writer [Professor Hilprecht] personally was held responsible for the preparation of the plans and the scientific management of the Expedition.

The mound containing the remains of the educational quarters of the city rises to an average height of 20 to 25 feet above the level of the present plain, and covers an area of about 13 acres. In other words, it occupies about the sixth part of the entire site included in the vast temple complex of Bêl on the northeast side of the Chebar. Only about the twelfth part of this library mound has thus far been satisfactorily examined with regard to the ruins lying above the plain level. The upper layer is easily distinguished from those below by the extensive remains of Parthian buildings constructed of the same large kind of unbaked brick which characterizes the two excavated palaces on the temple ruins and on the west bank of the Shatt en-Nîl. No important traces of Jewish and early Arabic settlements were disclosed anywhere in this particular mound. Parthian and Sassanian graves abound in the slopes of the entire hill. They were not unfrequently found even in the central part of the ruins, where they are sometimes accompanied by terra-cotta drains and wells descending far into the early Babylonian strata.

More than 4,000 cuneiform tablets had been discovered in the upper 20 feet of accumulated débris at Mound IV during our excavations of 1889 and 1890. They continued to occur in the same irregular manner in those strata also during our latest campaign. Upon closer examination the previously gathered tablets were found to include several hundred contract tablets and temple lists written at the time of the Assyrian, Chaldean and Persian rulers [about 700-400 B.C.], a few fragments of neo-Babylonian hymns, letters and syllabaries, a considerable number of business documents, dated in the reigns of the kings of the first dynasty of Babylon [about 2,300-2,100 B.C.], and more than 2,500 literary fragments of the III pre-Christian Millennium generally half effaced or otherwise damaged. I consequently had reached the conclusion that either there were two distinct libraries buried in "Tablet Hill,"—an earlier more important, and a later comparatively insignificant one lying on the top

EXCAVATIONS IN THE TEMPLE COURT

ABULLU RABU OR THE GREAT CITY GATE OF NIPPUR

of the former,—or that the mound concealed the remains of but one library continuously occupied and repeatedly restored, which contained documents of many periods in the same rooms. For apart from other considerations, the lists of Cassite names and words known from the Qoyunjuk collection, which Ashurbânapal's scribes doubtless had copied at Nippur for the royal library of Nineveh, proved sufficiently that occasional additions must have been made to the tablets of the earlier library in the long interval of 1,500 or 1,600 years which elapsed between the reign of Hammurabi and that of the last great Assyrian monarch. The fact that by far more ancient documents were unearthed than tablets written in the neo-Babylonian script was in entire accord with what we know of the two great periods to be distinguished in the history of Nippur.

The mere fact that the library unmistakably was allowed to lie in ruins for a considerable length of time points to a great national calamity from which the entire city and the country as a whole likewise suffered for years. We are thus led to a conclusion similar to that at which we arrived when we examined the results of our excavations at the temple mound. The breaking and scattering of so many thousands of priceless documents of the past was an act of gross vandalism on the part of the Elamitic warriors, who invaded and devastated the Babylonian plain about the middle of the III Millennium and played such terrible havoc with the archives and works of art in the court of the ziggurrat.

As nearly the whole of the excavated material from the ancient library is literary and scientific in its character, the tablets, with but few exceptions, are unbaked. They consequently have suffered not only from the hands of the Elamites, but also from the humidity of the soil to which they were exposed for more than 4,000 years; from the varying atmospheric conditions after their ultimate rescue, and from the unavoidable effects of long transportation by land and sea. The difficulties of the decipherer are thereby increased enormously, and it will require more than ordinary patience to overcome them and to force those half-effaced crumbling tablets to surrender their long-guarded secrets to our own generation.

There is, however, one circumstance which to a certain degree will reconcile us to the ruthless procedure of those revengeful mountaineers into whose quiet valleys and villages the Babylonian rulers so often had carried death and destruction in the name and 'in the strength of the god Bêl.' Mutilated and damaged as these tablets are, when fully deciphered and interpreted they will afford us a first accurate estimate of the remarkable height of Babylonian civilization, and of the religious conception and scientific accomplishments of a great nation at a period prior to the time when Abraham left his ancestral home in Ur of the Chaldees. They will impart to us knowledge of a fixed early period which the better-preserved copies of the royal library of Nineveh did not convey, and which probably for a long time to come we would have been unable to obtain, had the Temple Library of Nippur not been destroyed by the Elamite hordes [for, as Professor Hilprecht goes on to explain, they were preserved by being buried in the ruins].

### UNIVERSITY OF NIPPUR

The character of the northeast wing as a combined library and school was determined immediately after an examination of the contents of the unearthed tablets and fragments. There is a large number of rudely fashioned specimens inscribed in such a naïve and clumsy manner with old-Babylonian characters, that it seems impossible to regard them as anything else but the first awkward attempts at writing by unskilled hands,—so-called school exercises. Those who attended a class evidently had to bring their writing material with them, receiving instruction not only in inscribing and reading cuneiform tablets, but also in shaping them properly, for not a few of the round and rectangular tablets were uninscribed. The contents of these interesting 'scraps' of clay from a Babylonian 'waste basket' are as unique and manifold as their forms are peculiar. They enable us to study the methods of writing and reading, and the way in which a foreign language (Sumerian) was taught in the III pre-Christian Millennium.

POTTERY OF THE DIFFERENT PERIODS

SLIPPER-SHAPED COFFINS IN SITU OF THE PARTHIAN PERIOD

There are also grammatical exercises, exhibiting how the student was instructed in analyzing Sumerian verbal forms, in joining the personal pronouns to different substantives, in forming entire sentences, in translating from the Sumerian into the Semitic dialect of Babylonia and *vice versa*. His preparations look pretty much like those of the modern student who excerpts all the words unknown to him from Cæsar's *Gallic Wars* or Xenophon's *Anabasis* for his work in the class room.

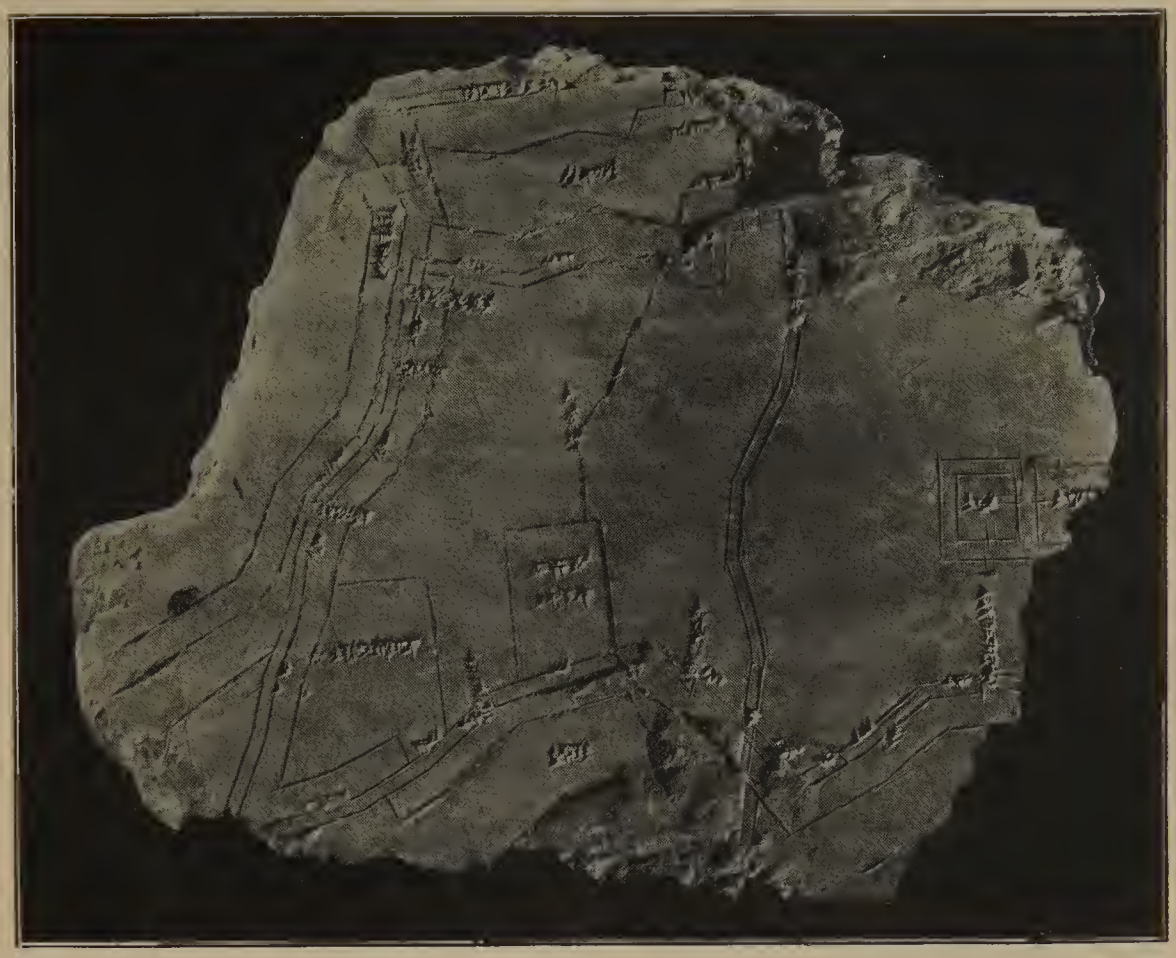
These early Babylonians, who excelled all other ancient nations of the same period in their lofty religious conceptions, in the depth of their sentiment, and in the scientific character of their investigations, did not suffer anything in their schoolrooms that would tend to distract the minds of the pupils and to interfere with their proper occupation. The temple library of ancient Nippur was eminently a place of study and a seat of learning, where the attention of all those who assembled for work was concentrated upon but one subject,—the infusing or acquiring of knowledge. In accordance with an ancient Oriental custom even now universally prevailing in the East,—in the great Mohammedan university of Cairo as well as in the small village schools of Asia Minor,—we should imagine the Babylonian students of the time of Abraham being seated on the floor with crossed legs, respectfully listening to the discourses of the priests, asking questions, practicing writing and calculating on clay tablets, or committing to memory the contents of representative cuneiform texts by repeating them in a moderately loud voice.

The 'books' required for instruction, reference and general reading as a rule were unbaked clay tablets, stored on shelves, or sometimes deposited in jars. The shelves were made either of wood—as ordinarily was the case also in the business houses on the western side of the Chebar—or of clay. These clay ledges were built up in crude bricks to a height of nearly 20 inches from the apparent floor level, and on an average were about 1½ feet wide. Two of the rooms yielded tablets and fragments by the thousands, and are among the largest thus far excavated in 'Tablet Hill.' To preserve the fragile 'books' from dampness, the clay shelves were probably covered with matting or with a coating of bitumen. According to the report of the architects, traces of the last-mentioned material seem to have been disclosed on the ledge of the large hall.

Special attention was paid to counting and calculating. Even instruction in drawing and surveying lessons were offered. There are a few tablets which contain exercises in drawing horizontal and inclined parallel lines, zigzag lines, lines arranged in squares, lozenge forms, latticework and other geometrical figures.

The course in art led gradually up to free-hand drawing from nature, and probably included also lessons in clay modeling and in glyptics and sculpture (seal cylinders, bas-reliefs and statues).

The technical 'books' on the shelves gave all the necessary information on the subjects treated in the school. But they also included more scientific works, tablets for religious edification, and 'books' of reference. To the first-mentioned class belong the many mathematical, astronomical, medical, historical and linguistic tablets recovered; to the second the hymns and prayers, omens and incantations, mythological and astrological texts. Among the books of reference I classify the lists of dates giving the names of kings and the principal event for every year, the multiplication tables, the lists of the different measures of length and capacity, the lists of synonyms, geographical lists of mountains and countries, stones, plants, objects made of wood, etc. It must be borne in mind that thus far only about the twelfth part of the entire library complex has been excavated, and, though it would be useless to speculate as to the exact number of tablets once contained in the temple library, it is certain that whole classes of texts, only sporadically represented among our present collections, must still lie buried somewhere in the large triangular mound to the south of the temple. During our latest campaign we struck principally the rooms in which the mathematical,



PLAN OF THE CITY OF NIPPUR, FOUND IN THE ARCHÆOLOGICAL MUSEUM, VI CENTURY B.C.

EXCAVATIONS IN THE TEMPLE AREA

astronomical, astrological, linguistic, grammatical and certain religious texts had been stored. This fact alone proves that the library was arranged according to subjects and classified according to scientific principles.

### BABYLONIAN ARCHÆOLOGICAL MUSEUM

The excavations revealed not only the oldest known sanctuary, library and school, but also the most ancient Archæological Museum. In an upper stratum of the Library mound was unearthed a small Babylonian Museum, the first known in history. The collections were preserved in an earthen jar and consisted of very choice specimens of antiquities. An archæologist of the present day after handling many thousands of objects recovered from the ruin hills of Babylonia is naturally able to judge concerning the real merits of antiquities discovered. This little museum illustrates the fact that the collector, who lived about the time of Belshazzar in the VI Century B.C., had the same high regard for that which would be considered especially valuable by a modern archæologist. Whether the specimens were excavated or purchased we do not know, but however acquired the collector has handed down to his illustrious colleague in the same science very choice antiquities. The earliest inscription of the collection, though somewhat fragmentary, contains the titles of Sargon I, 3,800 B.C., most of which were hitherto unknown. A black stone votive tablet belonging to Ur-Gur, 2,700 B.C., is the next in chronological order, which informs us that the king built the wall of Nippur. The section of the wall excavated revealed bricks with his name and titles.

The third object was a terra-cotta brick stamp of Bur-Sin, the first found of this Babylonian ruler. An excellently preserved tablet states that the great hall of the temple was called Emakh, and also, to Professor Hilprecht's surprise, that there were 24 shrines of other gods within the precincts of the temple besides Bêl and his consort Bêltis. The jar also contained tablets dated in the reigns of Marduk-nadin-akhi, a contemporary of Tiglathpileser I and Adad-apal-iddina, 1,060 B.C., the first thus far known; two tablets of great chronological importance inscribed by Ashur-etil-ilani, 625 B.C., and Sin-shar-ishkun; an astronomical tablet giving observations concerning Virgo ad Scorpion, and a large fragmentary plan of the city of Nippur, which will prove of great value in the reconstruction of the ancient city. This little archæological museum has now lost its identity, as it has been consolidated with its modern sister institution, the Archæological Museum of the University of Pennsylvania.

### WALLS AND GATES OF NIPPUR

Considerable attention on the last campaign was devoted to a methodical examination of the walls of the city, in order to determine their character, and especially with a view to a better understanding of the extent of the early pre-Sargonic city. *Imgur-Marduk*, the inner wall of the city, or the inclosure of the sacred precincts of the temple, were found deeply hidden below the ruins of later constructions. The interior of the southern wall, which contained the principal gate of the temple, was without any attempts at architectural adornment. Into it a number of store rooms were built. "The monotony of the long exterior surface was relieved by a series of panels." The gate was a very elaborate affair and yet had its origin in the time of Sargon I [3,800 B.C.]. A door socket inscribed by Ur-Gur [2,700

EARLY PRE-SARGONIC TABLET, C. 4,500 B.C.

LIBRARY AND SCHOOL OF NIPPUR

B.C.] had been used over and over until the time of Ashurbânapal at the level of whose pavement it was found. *Nîmit-Marduk*, the outer wall of the city, was plainly visible and could easily be traced through a series of low ridges to the north of the temple. To the east of the sanctuary the task appeared more difficult, and was left to be accomplished in connection with the excavation of the mounds which adjoin toward the temple. Professor Hilprecht is of the opinion that this group of mounds represents "the palace of the patesi (priest king) of Nippur and the houses of the large body of higher priests and temple officers serving immediately under him."

The excavations on the outer face of the wall, especially the pre-Sargonic construction, yielded large quantities of terra-cotta balls and a few small stone eggs. These "are to be regarded as missiles thrown by the slingers of hostile armies attacking the city." Clay was turned into war material, owing to the absence of stone in the alluvial soil of Babylonia. Other weapons found were arrows, spears and axes made of copper, and clubs of stone. Near the base of the outer wall were also found stone weights and mortars, broken statues and reliefs, "some of the oldest fragments of sculptures discovered at Nuffar," doubtless thrown down from the walls by the besieged inhabitants of the city.

In the first half of the III Millennium before Christ, "a row of magazines, booths and closets occupied the space along the inner face of the long wall." In one of the rooms a large kitchen furnace 13 feet long by 7 feet wide and nearly 4 feet high was found. It was built about 2,300 B.C. It consisted of a series of 9 arches, each about 2½ feet wide in the clear. The arches inclosed the fire-box. A roof of tiles over the whole structure converted the spaces between the arches into flues, which connected with another flue extending at right angles to the arches and just alongside of them. This last flue served as a chimney. In another room a jar containing the accounts of a Babylonian shop-keeper about 2,600 B.C. was found.

At a point in the low ridge of hills which represent the ancient wall where nothing above the level of the plain was seen, the remains of a pre-Sargonic gate were found. Only part of its substructure and stepped ascent remained. The gate was divided into three parts, the main roadway in the middle for beasts and vehicles, and an elevated passageway on either side for the people. The central road was about 12 feet wide, or nearly 3 times as wide as each side walk.

These are a few of the many important architectural features and discoveries recorded in Professor Hilprecht's volume *Explorations in Bible Lands*. It contains 4 specially prepared maps and nearly 200 carefully selected illustrations, exhibiting the work and method of the different expeditions in the trenches, the ruined and restored temples and palaces, and the rich archæological material brought to light in the ancient Biblical world during the past century, special attention being given to such antiquities as have a bearing upon the Old Testament.

The authors had the one aim throughout the preparation of the work "to bring the history of the gradual exploration of those distant oriental countries, which formed the significant scene and background of God's dealings with Israel as a nation, more vividly before the educated classes of Christendom."

# EDITORIAL NOTES

**ORIENTAL EXPLORATIONS:** This issue of RECORDS OF THE PAST is devoted to the work of the Babylonian Expedition of the University of Pennsylvania. It is desirable in taking up this great work to give a general outline covering the various campaigns in Babylonia since the inception of the enterprise in 1888. The publication of Dr. Hilprecht's work made it possible to give a general outline of the work to the present time. To Dr. Peters belongs the credit of originating and organizing the most important Expedition in the interest of historical research that has ever been undertaken. His interesting article deals only with the work of the Expedition during the first two campaigns while he was director. The impetus that he gave the work placed it upon a successful foundation and time will only disclose the ultimate results of his persistent determination to uncover the antiquities of the Tigro-Euphrates Valley. To some of the prominent citizens of Philadelphia belong the credit of furnishing the necessary financial aid to successfully prosecute the work. They have set a noble example for the wealthy men of this country to follow.

To Dr. Hilprecht, belongs the credit of carrying on the work so ably begun by Dr. Peters. It could not have fallen into more competent hands. He is without doubt the greatest living assyriologist. It is to him the world is indebted for gathering the fragments recovered from Nippur and other centers of the Tigro-Euphrates Valley and constructing a history of the oldest civilization in the world. His going out with Dr. Peters on the first campaign to Nippur as an assyriologist enabled him to become familiar with every stage of the work and the results thus far obtained. He is not only a profound scholar, but a successful explorer, and when he returns to Nippur in the coming fall the world will have reason to expect still greater disclosures of the past. In his work of translating the documents found and publication of the results of the several campaigns, he has been greatly aided by his accomplished assistant, Prof. Clay. We congratulate the readers of RECORDS OF THE PAST, on the interesting sketch which we present in this issue. It will be followed in March by an elaborately illustrated article by Mr. Fisher, on the Architecture of Nippur. Future articles will deal with other features of the work.

**THE EXCAVATION OF GEZER:** Mr. R. A. Stuart Macalister under date of January 15, 1903, writes to the London *Athenæum* from Jerusalem concerning the progress of excavation at Gezer as follows: The excavations on the site of Gezer continued steadily from the time when I forwarded my last letter on the subject to the *Athenæum* till last November, when the unfortunate cholera epidemic in the district made it necessary to suspend operations.

The work during the past quarter has been concentrated on the great megalithic temple which had just been revealed when I wrote before, and on the ground in its immediate neighborhood.

The results have been as important as those already discovered. In the first place, the series of troglodyte dwellings of great antiquity, artificially excavated in the rock-summit, have been brought to light. Fragments of ancient pottery and flint weapons have been recovered from them, but so far no intrusive human remains, though I am inclined to correlate

the inhabitants with the deposit of burnt bones found in the buried cave already reported on. I estimate the date of these dwellings at from 2,500 to 3,000 B.C. The lowest stratum of débris is probably contemporary with or slightly later than these rock-hewn dwellings; at any rate, it is to be referred to the same pre-Amorite race.

Above this stratum I have succeeded in identifying five late strata, two of which I refer to the Amorites, two to the pre-Exilic Jewish period, and one to the years immediately following the Exile. The arguments for this chronology are drawn from the pottery and other remains found in each stratum, and in two remarkable details accord in a most interesting manner with the history of Gezer as known from literary sources. During the Amorite period the temple, which has been the center of the work during the quarter, seems to have been an open space, without buildings or erections except the great monoliths. In the beginning of the Jewish period the space was built over, though religious emblems found in profusion in and about Jewish houses show that the place retained its religious character, notwithstanding the change of the dominant religion. This implies that at the commencement of the Jewish period it was necessary to provide for the housing of an increased population within the walls, so that the sacred inclosure had to be encroached upon. Further, the second Jewish city, which is coeval with the monarchy, is much smaller than its immediate predecessor, the whole eastern end of the *tell* being entirely unoccupied by it, showing that a smaller population was contemplated by its builders. The explicit statements of the Hebrew historians, in Joshua xvi. 10 and 1 Kings ix. 16, respectively, to the effect that at the commencement of the Jewish period the Israelites did not drive out the Canaanites, but crowded themselves in among them, and that at the commencement of the monarchy the King of Egypt killed the Canaanites of Gezer (probably reducing the population by half), are apparently reflected in these phenomena of the stratification, and seem to show that we are on safe ground in the chronological principles deduced from pottery.

There still remains a disappointing dearth of inscriptions. A XII Dynasty (?) sepulchral stele, of common type, from the Amorite strata, and a smaller fragment of sandstone with the ring and titles of Niafaurt I, from the topmost stratum, both in hieroglyphics, are the only written records yet unearthed, if we except stamped jar-handles with short Hebrew and Greek inscriptions.

The temple consists of: 1. An alignment of 8 monoliths, from 5 to 10 feet in height, with the stumps of two others that have been broken. There is a possibility that one of the monoliths was used as a perch of a stylite priest (such as is described in the *De Dea Syra* of Lucian), and that another was a stone held in special veneration, being clearly polished at the top by the rubbing, anointing, and kissing to which devotees have subjected it. The 3 stone has some cup-and-channel marks on one face. 2. A massive cubical block of stone with a square mortise cut in the upper surface, apparently the socket for receiving the *asher*, a pole which was an essential element of the Canaanite temples. 3. An area of (as yet) uncertain extent, left open (like the Moslem *haram*) in Amorite times. There was then about 1½ feet of soil covering the rock, and this sub-stratum was found to contain a considerable number of large jars with smaller jars in and about them. Within each of the large jars was found the skeleton of a newly born infant, evidently a victim of sacrifice.

# RECORDS OF THE PAST

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Volume II

# RECORDS OF THE PAST

Part III

REV. HENRY MASON BAUM, D.C.L.
Editor

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Assistant Editor

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HAMMURABI RECEIVING THE LAWS FROM THE SUN-GOD OF SIPPARA

# RECORDS OF THE PAST

VOL. II

PART III

MARCH, 1903

## THE LAWS OF HAMMURABI, KING OF BABYLONIA

### EDITORIAL INTRODUCTION

THE ruins of Susa now being excavated by the distinguished explorer M. de Morgan have already yielded important results. He was led to undertake the excavation of ancient Susa from inscriptions found in the ruins of Babylon, from which he learned that many of the most important monuments of the Babylonian kings had been carried, as trophies of war by the Elamite kings, to their capital, Susa. When he left Egypt in 1888 it was for the purpose of recovering from the ruins of Susa these monuments. He had not been long at work in Susa before he found the stele of Narâm-Sin c. 3,800 B.C., which showed a high state of art in the Tigro-Euphrates valley nearly 6,000 years ago. This discovery was rapidly followed by others. The most important of which is the stele of Hammurabi, upon which was engraved his code of laws, c. 2,250 B.C.

Two translations of this code have been made, one into French by Scheil, the assyriologist of the French Expedition to Persia, of which M. de Morgan is the director, and the other into German by Dr. Hugo Winckler. The following translation is from the latter by Dr. H. Otto Sommer and construed into legal phraseology by William Earl Ambrose, Esq.

This code is the oldest collection of public laws that has yet been discovered. It is a reflection of the social conditions existing in Babylonia 4,000 years ago. The jurist of to-day will recognize in it most of the fundamental principles on which our social legislation is based.

To the biblical student the Code of Hammurabi suggests at once a comparison with the Laws of Moses, which were written about 700 years later. But a comparative study of the two codes can only be made by one conversant with the conditions under which Moses promulgated his laws for the government of the Hebrew state and church. It has already been charged that Moses copied from the older code. It must be remembered that in every age and condition of society the great fundamental principles of justice have been and must remain the same. Therefore when we find these principles of justice existing in both the laws of Hammurabi and Moses, we recognize in them the eternal precepts of right and wrong in human society. Granting this, a further comparison between the two codes reveals in the latter, a higher and what is and may be claimed to be, a divine ordering for the higher and spiritual condition of man. That Moses was familiar with the Laws of Hammurabi and doubtless had studied them cannot be doubted by anyone conversant with the literary and commercial intercourse existing between Egypt and Babylonia. The comparison of the two codes will form the subject of a future article in RECORDS OF THE PAST.

### HAMMURABI'S INTRODUCTION TO HIS CODE OF LAWS

When Anu, the sublime, the King of the Annunaki and Bêl, the lord of heaven and earth, who fixed the destiny of the country, had committed the whole of mankind to Marduk, the son of Ea, the god of right, when they made him great among the Egigi, had pronounced the sublime name of Babylon, made it great upon earth, had established in it an eternal kingdom, the foundations of which are laid firm like heaven and earth, at that time Anu and Bêl called me, Hammurabi, the great prince, who fears God, to give justice a status in the country, to destroy the wicked and bad, that the strong should not overcome the weak, that I might rise over the block-headed ones; like Shamash, to illuminate the land and to further the welfare of humanity, Hammurabi, the prince, the one called by Bêl, am I. To obtain riches and superabundance, bringing about everything possible for Nippur and Durilu, the exalted protection of Ekur; who had restored Eridu, purified the cult of E-apsu, who fought against the four regions of the world, made the great name of Babel, brightened the heart of Marduk, his master; who (Hammurabi) does service in Esagila, the royal branch which Sin founded, who made rich Ur, the humble and subservient one, who brings riches to Gish-shir-gal, the wise King, heard by Shamash, the mighty one, who laid the foundations of Sippar, who clothed in green the tombs of Malkat, who enlarged E-babbar, which is like heaven; the warrior who protected Larsa, and renewed E-babbar for Shamash, his helper, the lord who gave new life to Uruk, who supplied plenty of water to its inhabitants, who raised the head of E-Anna, completed the splendor of Anu and Nanna, the protector of the country, who united the scattered inhabitants of Isin, who richly supplied E-gal-mach, the protecting city king, brother of the god Zamamma, who firmly founded the settlement of Kish, surrounded with splendor. E-me-te-ur-sag doubled the great sanctuaries Nana; manager of the temple of Harsag-kalama, the grave of the enemies, whose help gains the victory; who enlarged the city of Cutha; who made splendid everything in E-shid-lam; the black steer who strikes down the enemies, the favorite of the god Tu-tu; who caused joy to the population of Borsippa; the sublime one, who is tireless for Ezida, the

god-like king of the city; the wise one; the clever one, who extended the agriculture of Dilbat; who piled up grain for Urash, the strong one; the man to whom belongs the scepter and crown with which he crowns him; the chosen one of the goddess Mama, who fixed the place of the temple of Kish; who enriched the holy meals of Nintu, the careful one, who provided the eating and drinking for Lagash and Girsu; who supplies large offerings for the temple of 50; who takes hold of the enemies, the chosen one of the oracle; who carried out the prophecy of Hallab; who caused joy to the heart of the Annunit, the pure prince, whose prayer is recognized by Adad; who set at rest the heart of Adad, the warrior in Karkar, and restored the implements of the culture in Eud-gal-gal; the King, who lent life to the city of Adab; the director of E-mach; the princely King of the city, irresistible fighter, who gave life to the population of Mash-kan-shabri; who furnished superabundance to the temple of Schidlam, the wise, valiant one who forced the retreat of the bandits; who covered the inhabitants of Malka with misfortune; who founded richly their residence; who established pure offerings for Ea and Dam-gal-nun-na; who made his Kingdom great forever; the princely King of the city, who subjugated the provinces along the Ud-kib-nun-na canal (Euphrates), according to the commandment of Dagon, his creator; who spared the inhabitants of Mera and Tutul; the exalted prince, who made radiant the countenance of Nina; who set holy meals before the god Nin-a-zu; who cared for their inhabitants in need, safely cared for their fortunes in Babylon in peace; the shepherd of the subjects; the servant, whose deeds are pleasing to Annunit; who pleased Annunit in the temple Dumasch in the suburb Agade; who proclaims justice, leads the law, gave back to the city of Assur her gracious patron; who caused to dwell the name of Istar in Nineveh, in the temple E-mish-mish; the sublime one, who prostrates himself before the great gods, the descendant of the Sumu-la-ilu; the mighty son of Sin-muballit; the kingly seed of eternity; the mighty king; the sun of Babylon, who causes the light to radiate over the country Sumer and Akkad; the King whom the four regions of the world obey; the favorite of the god Nini, am I. When Marduk sent me to rule mankind, to impart judicial protection to the country, it was that I might establish right, justice and happiness among the people.

### HAMMURABI'S CODE OF LAWS

1. Any person convicted of preferring charges against another person which he cannot substantiate shall be put to death.

2. In event anyone prefers charges against another person and the one against whom the charge is brought leaps into a body of water and is thereby drowned, that person who preferred the charge shall thereupon take possession of the property of the one so drowned. But if the person against whom the charge is preferred is not drowned, the person who made the charge shall be put to death and the one accused shall take possession of the property of his accuser.

3. Any person preferring a charge of malfeasance against a juror sitting in the case at bar, which charge he is unable to substantiate, and the hearing being one at the conclusion of which the death penalty may be adjudged, the person so preferring such charge shall be put to death.

4. Any person attempting to suborn a juror by a bribe of grain or gold shall be deemed to be guilty of felony and shall receive such punishment as

might be adjudged proper to inflict upon a person guilty of the offence for which such trial was being conducted.

·5. Any judge conducting a trial and rendering a written decision therein shall receive 12 fold the punishment administered by reason of his decision, if the decision is subsequently proved to be erroneous.

6. Any person convicted of the offence of selling property stolen either from the city or the temple shall be put to death and the person who receives the stolen goods from such offender shall likewise be put to death.

7. Any person purchasing silver, gold or a slave, either male or female, a beef or an ass or any other personal property from another person or from the slave of another person, without witnesses to the transaction or agreement, shall be adjudged to be a thief and shall be put to death.

8. Any person who without right sells a beef, a sheep, an ass or swine or other personal property, if it be the property of the temple or of the city, shall make restitution thereof 30 fold, if it be the property of a freedman, 10 fold; in event such person has nothing with which to make restitution in accordance with the foregoing provision, he shall be deemed to be a thief and shall suffer the death penalty.

9. If anyone has lost an article of personal property and discovers it in the possession of some other person and that person excuses his possession by the statement that still another person sold it to him in the presence of witnesses and that he has paid therefor, and thereupon the owner of the article declares that he is able to bring witnesses to identify his property; it then becomes incumbent upon the possessor to produce the one whom he alleged sold him the article and likewise a witness to the transaction of purchase. The owner shall likewise produce witnesses to substantiate his ownership and all the witnesses shall proceed before a judge and all the witnesses being duly put upon their oaths, shall testify to the facts before the judge. In event the owner proves his property the seller of the article shall be deemed to be a thief and shall suffer the death penalty. The purchaser shall make restitution of the property to the owner and shall receive back from the seller the purchase price.

10. In event of a failure on the part of the purchaser, vendor and the witnesses before whom he alleges he consummated the transaction to appear in the case, and the owner does produce witnesses to establish his ownership in said property, the purchaser, in failing to produce his witnesses to the transaction and the vendor as aforesaid, shall be adjudged to be a thief and shall suffer the death penalty. The property shall be restored to the owner.

11. In event of a failure, however, on the part of the claimant of the lost property to produce at the hearing competent witnesses to establish his ownership, he shall be deemed guilty of having slandered the purchaser and shall suffer the death penalty.

12. In event the vendor of property which he has sold without right, shall die prior to a hearing upon the claim of the owner of the property, then the vendee shall receive from the estate of the vendor 5 fold the purchase price of the article disposed of to him by the decedent.

13. In event of inability to produce witnesses in such a case at the first hearing thereon, the judge shall continue the trial of the cause for a period not to exceed 6 months. In event of failure of either party to produce witnesses for their respective claims within that period, the one failing so to do shall be deemed guilty and shall receive such punishment as is hereinbefore provided for in such cases.

14. Anyone adjudged to be guilty of kidnapping shall be put to death.

15. Anyone who shall abduct a slave of the court, or a female slave of the court, or the male or female slave of a freedman, shall be taken beyond the city gate and put to death.

16. Anyone harboring a runaway slave, either male or female, of the court, or of a freedman, and failing to produce him or her on the public demand of the major domo of the court, or the house of a freedman, upon conviction thereof shall be deemed guilty of felony and shall suffer death.

17. Anyone capturing a male or female slave, and returning said male or female slave to his or her master, shall be compensated by the master to the extent of 2 shekels of silver.

18. In event a runaway slave shall refuse or fail to name his master, the person capturing such slave shall produce him before the court where his identity shall be examined into and upon its being ascertained the slave shall be returned to his master.

19. Any person capturing a runaway slave and detaining him in his house and exercising ownership over him, upon conviction thereof shall be deemed guilty of felony and shall suffer the death penalty.

20. In event a runaway slave escapes from his captor, the captor shall make oath to the owner of the slave as to the circumstances, and thereupon shall be released from any charge by reason of the escape.

21. Anyone seeking to burglarize a house, by breaking into it, shall be deemed guilty of felony and shall suffer the death penalty. The execution shall take place at the point of the breach in the house and he shall be there interred.

22. Any person convicted of a robbery shall be put to death.

23. In event anyone shall be robbed, and the person committing the robbery shall escape, the party so deprived of his property shall make claim under oath, enumerating the property of which he has been robbed, whereupon the municipality or (.....) wherein said robbery was committed shall compensate him for his loss.

24. In the event of the abduction of any person, the municipality or (.....) in which the abduction took place shall pay to the personal representatives of the abducted person, 1 silver "mine."

25. Any person who shall be present at a fire occurring in the house of another, and while present at such fire appropriates any article belonging to the proprietor of the house in which the fire occurs, shall be deemed guilty of a felony, and as a punishment therefor shall be thrown into the burning fire.

26. If an officer of the king or [drafted] man who has been ordered to march with the king's troops, fails so to do and procures a mercenary or substitute who performs the duty incumbent upon such officer, or [drafted] man and the officer or [drafted] man shall die while his mercenary or substitute is with the king's troops, thereupon the mercenary or substitute shall be entitled to take possession of the estate of his deceased principal.

27. If an officer or [drafted] man is captured during a reverse of the king, and during his imprisonment his property is delivered into the hands of some other person, he shall upon his release and return to his home be reinstated in the possession of his property.

28. In event of the capture of an officer of the king or [drafted] man upon a defeat suffered by his king, the officer's son shall take possession of

his property and that son shall be deemed the proper person to exercise the control and possession over his father's field and garden.

29. In event his son [the son of an officer or drafted man] by reason of his infancy is incapable of taking possession of his father's property, the son's mother shall be given $\frac{1}{3}$ the field and garden of the father and shall be charged with the maintenance and support of such son until he shall reach maturity.

30. In event an officer of the king or [drafted] man fails to make provision for the cultivation of his field, garden and the care of his house, or gives them in payment to some other person who enters into possession thereof and occupies the same for the period of 3 years, whereupon such officer or [drafted] man returns to claim such field, garden or house, the officer or [drafted] man shall not be deemed the rightful owner, and the property shall remain in the possession of the person occupying it.

31. In event he [an officer of the king or a man] shall lease his property for the period of one year and at the termination of said lease he returns to take possession of said property, he shall be entitled to the possession thereof.

32. Any person purchasing the freedom of an officer or man captured while on a march with his king, shall be repaid the ransom money by the captured officer or man, in event the officer or man has property or means sufficient to repay the purchaser of his freedom. In event such ransomed person has no means by which to repay the person purchasing his freedom, the municipality in which such captured person has his domicile shall compensate the purchaser of his freedom, the charge therefor to be first made upon the temple. In event of insufficient funds in the temple to make payment then the state shall defray the charge. The field, garden and house of the ransomed officer or man shall not be charged for repayment.

33. Any [officer] or [soldier] who deserts and substitutes a mercenary in his stead and the mercenary goes in his stead, then the deserter shall be deemed guilty of felony and punished by death.

34. If [officer] or a [soldier] injures the property of the king he shall be deemed guilty of felony and punished by death. If anyone delivers an officer of the king into bondage, and in so delivering the officer into bondage he bribes one in authority to assist him in the delivery and likewise appropriates to his own use property belonging to and bestowed upon the officer by his king, that wrongdoer shall be deemed guilty of felony and put to death.

35. Anyone purchasing a beef or small animal given by the king to an officer [for the officer's rations] shall forfeit the purchase price.

36. The field, garden and house of a taxpayer cannot be sold [is exempt from levy].

37. Anyone purchasing a field, garden or house of an officer, soldier or taxpayer the slate shall be washed [the contract therefor shall be null and void] and the purchase price shall be refunded to the owner [and he, the owner, shall retain his property].

38. A captain, soldier or taxpayer cannot sell the property of his feudal lord, wife or daughter, or pledge such property for the payment of his debts.

39. He [captain, soldier or taxpayer] may assign the field, garden or house which he has purchased with his own money and which he possesses in his own right for the payment of his debts. He may also convey such property to his wife or daughter.

40. He [captain, soldier or taxpayer] may sell [lease] to a trader or employee of the city his field, garden and house for usage.

41. Anyone fencing in the field, garden and house of an officer, soldier or rentpayer and furnishing the fencing pales therefor shall, upon the return of the officer, soldier or rentpayer, deliver to him the field, garden or house and the fencing so erected, and the fencing shall become and be the property of the officer, soldier or rentpayer and shall not be taken from the land of the owner by the erector thereof.

42. Anyone entering into the possession of a field upon agreement and neglecting to raise grain upon that field shall be held accountable to the owner thereof for a quantity of grain commensurate with that grown in the neighboring fields, upon it being shown that he has failed to comply with the conditions in regard to the cultivation of the land.

43. In event of failure of such a person to cultivate a field he shall be held accountable to the owner thereof for the payment to him of grain commensurate with that grown in the neighboring fields and he shall further be compelled to plow and sow the said field and deliver the field, so planted and sown, back to its owner.

44. In event the person takes possession of a waste field for the purpose of making it arable, but fails to make the field arable, he shall be compelled to cultivate the barren field in the fourth year [after his having taken possession of it], harrow it, seed it and deliver the field to the owner, and shall be compelled to render to the owner for every 10 "gan" [of grain he might have raised had he been diligent] 10 "gur" of grain.

45. In event anyone enters into an agreement [leases] for a field and under that agreement a fixed compensation is paid therefor to the owner, and bad weather intervenes and destroys the [growing] crop, the loss shall be borne by the lessee.

46. In event no definite compensation is fixed for the use of the field, but a proportionate share of the products is agreed upon [for its use], the lessor and the lessee shall divide the grain cultivated upon that field in accordance with their agreement ($\frac{1}{2}$ or $\frac{1}{3}$).

47. In event the lessee, because of a failure in the first year of his tenancy to receive maintenance [to raise enough grain for his maintenance] from the field, notwithstanding his earnest effort to so do, the owner thereof may not hold him responsible for his share; the field has been tenanted [and an attempt at cultivation made] and at the next harvest the owner shall receive grain in accordance with his agreement.

48. Anyone leasing a field which is devastated by tempest or by a drought is not compelled to account to the owner for his share of grain during that year, the slate is dissolved in water [the obligation is annulled] and an accounting is to be had for that year at the termination of the succeeding one.

49. Any person leasing a tillable field to a business man and borrowing money from him, and at the same time directing the business man to cultivate the field and to plant thereon grain or sesame and to harvest grain raised thereon for his benefit, and the business man or his subtenant raises upon the field grain or sesame, the person so leasing to the business man shall, at the harvest, receive the grain and sesame which are raised upon the field and pay to the business man grain for the money advanced by him, besides interest on such money advanced by the business man, and shall in addition thereto give to the business man such grain as is necessary for the

sustenance of the business man or such cultivator of the soil as has been employed by the business man for the purpose of raising grain upon his field. [Provide for maintenance of the laborers who actually do the work.]

50. If anyone borrows money upon a cultivated grainfield or cultivated sesame field he shall receive the grain or sesame which is grown upon that field. He shall pay back to the person making him the loan the money borrowed, with interest.

51. In event he is unable to repay the loan or money borrowed, he shall deliver to the lender grain or sesame [equal in value] to the amount of the sum borrowed, with interest, in accordance with the rate of interest provided by the royal tariff [legal rate].

52. In event anyone borrows money upon a field and fails to raise grain or sesame whereby to repay his creditors, his indebtedness is not extinguished.

53. Anyone failing to keep his [irrigating] dam in repair and through his neglect and laziness a break occurs in the dam and his neighbors' lands are flooded by the overflow of the water therefrom, he shall compensate the owner of the damaged land for his loss of grain or other property [occasioned by the overflow].

54. In event he is unable to repay or make good the damage incurred by his neglect, his property is to be sold and those incurring damage through his negligence are to divide his property among themselves in accordance with the extent of the several losses occasioned by his negligence.

55. If anyone opens his canal for the purpose of irrigation [in a negligent manner] and thereby floods the fields [of his neighbors] shall be held to account to those neighbors and to pay them grain corresponding with their [the neighbors'] loss.

56. Anyone negligently and maliciously found to be guilty of flooding his neighbor's tillable fields shall measure out to that neighbor "gan" for every 10 "gur" of grain [destroyed thereby].

57. Any shepherd who, without the permission of the owner of a field, permits his cattle to graze upon another's field, shall permit the owner of the field upon which his cattle have grazed, to harvest his [the shepherd's] field and shall pay in addition thereto [to the owner of the devastated field] 20 "gur" of grain for every 10 "gan" destroyed by his wrong doing.

58. In event a shepherd, after his herd has left the general pasture and been coralled at the city gate, allows them to graze upon the field of another, that shepherd shall be compelled to keep that field which he has allowed his cattle to graze upon [in exchange for his own] and at the harvest time shall pay to the owner of the devastated field, for every 10 "gan," 60 "gur" of grain [destroyed by his wrong doing].

59. Anyone trespassing upon the land of another and cutting wood therefrom, shall pay to the owner thereof ½ "mine" of gold.

60. Anyone intrusting to a gardener a field [uncultivated] in order that it may be planted as a garden and the gardener thereupon enters upon the field and cultivates it and cares for it for a period of 4 years, the cultivator and the owner thereof shall divide with one another at the end of the fifth year the products of the field.

61. In event the gardener does not complete the planting of the field and leaves a part uncultivated [at the end of the fourth year] the unculti-

vated part shall be deemed to be his share, and the owner thereof shall have the cultivated portion.

62. In event the gardener takes the field which has been intrusted to him, if it be a wheat field, and fails to cultivate it, the gardener shall be compelled to pay to the owner such sums of money or such an amount of grain as might have been raised upon the field in accordance with what has been raised upon adjoining fields, and shall moreover place the field in a cultivated condition.

63. If anyone shall redeem waste land and make a cultivated field out of the same and return it to its owner the owner shall measure out for a year 10 "gur" of grain for every 10 "gan" [of land]. [The 10 "gur" of grain for each 10 "gan" of land shall be paid but once in compensation for the services rendered in making the land productive.]

64. Anyone leasing a field for the purposes of cultivation shall, so long as he retains possession thereof, render $\frac{2}{3}$ of the profit thereupon to the owner and shall retain $\frac{1}{3}$ for himself.

65. In event the lessee does not work the field and the profit thereof decreases he shall give to the owner thereof profit commensurate with the products on neighboring fields.

[There are 5 rows of text missing here which have been chiseled out. The following paragraphs were obtained from copies out of the library of Assurbanipal:]

a. Anyone selling to another a date garden [borrowing money from another and giving therefor a date garden as security] upon condition that the dates grown thereon shall be the consideration [security] for the money paid by the purchaser [lender], the owner of the field shall be entitled to harvest the dates and return to the purchaser [lender] the purchase price [borrowed money] for the same and interest according to the order [covenants] of the contract, and may dispose of the dates as he deems advisable.

b. If anyone leases property from another for the term of a year, paying therefor [in advance] and the lessee shall be ejected by the owner, he, the lessee, shall be entitled to receive back such portion of the money as is represented by the unexpired term.

c. [Anyone] owing a debt of grain or money to another which he is unable to pay back, shall be entitled to produce other possessions which he may have equal in value [to the advancement] and discharge his indebtedness [by delivering them to his creditors].

[The enumeration of the paragraphs from this point gives rise to the supposition that the gap takes in 35 paragraphs and goes on from 100.]

100. Anyone borrowing money shall, on the day of settlement, repay the same to his creditor, with interest, according to the memoranda of his contract [for payment].

101. Anyone advancing money to another for the purpose of enabling the borrower to engage in business elsewhere, and the borrower to whom he advances failing to profit by his enterprise in such foreign place, he, the lender, shall receive back from the borrower the money so advanced.

102. In event anyone has an advance made to him of money for an enterprise in which he [subsequently] suffers, the loser shall return the money advanced by his creditors.

103. In event an advancement is made to another and the borrower, while on his journey in pursuance of the enterprise for which the money

is advanced, is robbed, he shall return and make statement under oath to his creditor of the circumstances of the robbery and thereupon shall be discharged [from liability on account of loan].

104. Anyone delivering to a middleman, factor or broker, grain, sesame or other merchandise to sell [for his account], the middleman, factor or broker shall give to him a receipt or written obligation setting forth the commission and conditions [contract of brokerage] under which sales and disposals of the properties are to be made and shall, in return, take a receipt [a written authority to sell] from his consignee. The middleman, broker or factor shall not use the money of his business man [consignee] unless receipted for [authorized in writing].

105. If the middleman, factor or broker is negligent and has failed to take receipts for money paid by him to the business man, he is estopped from making a subsequent claim therefor.

106. If anyone furnishes money to a middleman, broker or factor and said middleman, broker or factor afterward denies the receipt of such money and the person advancing the money shall make oath to the transaction and produce witnesses to substantiate his claim and the claim is found to be a just one, he shall be entitled to reclaim from the middleman, broker or factor 3 fold the money advanced by him to the middleman, broker or factor.

107. Anyone advancing money to a middleman, broker or factor which has been returned to him in full, and at the payment, the lender disputes the payment, the party making the advance, upon the unjustness of his dispute being determined, shall compensate the middleman or broker by paying to him 6 fold the amount advanced, repaid and disputed by him.

108. Any restaurant [inn] keeper who for the payment of drinks [or entertainment] shall [demand] and receive grain according to gross weight instead of money and if it is shown by the payer that the drink [or entertainment] is of a lesser value that that charged for, the innkeeper shall be deemed guilty of misconduct [misdemeanor] and thrown into the water [in punishment].

109. If a restaurant or innkeeper allows conspirators to meet at his or her house and these conspirators are brought to trial before the courts [and are convicted], the innkeeper shall be put to death.

110. In event a virgin of the temple opens [sells liquors] or enters a bar for the purpose of drink she shall be burnt up.

111. An innkeeper delivering 60 "ka usakani" liquor [to one on credit] shall be repaid at the harvest 50 "ka" of grain.

112. If anyone while on a journey intrusts to another person gold, silver, precious stones or other personal property and the bailee fails to transport all such property to the destination determined upon [and directed by the bailor], but appropriates it [or any part thereof] to his own use, he, the bailee, shall give back to the bailor 5 fold the amount which has been appropriated by him.

113. If anyone receives an order from another for gold or grain and the giver of the order takes out of the house for safe-keeping [the storage place of the article for which the order was given] without the knowledge of the person to whom the order was given, any part of the gold or grain, he shall be held amenable and shall return the gold or grain to the person holding his order and [in punishment therefor the property of the wrongdoer shall be confiscated] his property shall be confiscated.

114. Anyone without right demanding grain or gold from another and under duress forcing its delivery shall for each and every offence committed by him pay $\frac{1}{3}$ "mine" of silver [to the injured person].

115. If anyone having a claim against another for grain or gold shall exercise judicial restraint over that person, and that person dies a natural death while undergoing imprisonment, the person occasioning the imprisonment shall not be held accountable therefor.

116. If, however, such imprisoned person dies in the house of the claimant from the effects of blows or harsh treatment inflicted upon him, the person causing his restraint [the murderer] shall be produced in court; in event the person dying was a free man, the son of the person causing his death shall suffer the death penalty in event of conviction. If on the other hand the decedent was a slave, the murderer shall pay $\frac{1}{3}$ "mine" of money [to the decedent's owner]. The murderer's estate shall become the property of the slave's owner [or the heirs of the freeman].

117. Anyone who shall, by reason of his indebtedness, sell his wife's son or daughter for money or hires them [or either of them] out for forced labor in order that he may pay his indebtedness with the proceeds realized from their labor, the person so hired out shall be compelled to work for 3 years for the purchaser [hirer] and in the fourth year he or she shall be emancipated.

118. In event a slave, male or female, is hired out for forced labor and the person hiring them rehires them to someone else, he shall not be adjudged to be at fault in so doing.

119. Anyone who owes a debt and for payment thereof sells a female slave, who has born children, shall be compelled to furnish money for the purpose of emancipating her.

120. If anyone stores grain in the house of another and an accident happens to the grain, or the bailee converts the grain to his own use and afterward shall deny the existence of any such grain stored in his house, then the owner upon making claim under oath for his grain [which is substantiated], shall be entitled to receive from the bailee the grain lost or converted by the bailee to his own use in undiminished quantity.

121. Anyone storing grain in the house of another shall compensate the bailee by paying to him 5 "ka" of grain for every 1 "gur" of grain stored during the year.

122. If anyone intrusts to another gold, silver or other personal property for safe-keeping, he shall exhibit the articles to be stored to a witness and thereby close the contract for safe-keeping [which shall be a binding contract of bailment].

123. In event the witness to the contract [alleged to have been made] shall afterward appear and deny its existence, the bailee shall be discharged of any liability on account of the alleged contract.

124. Anyone depositing with another one gold, silver or any personal property before a witness, shall be entitled to have restored to him the article in undiminished quantity.

125. Anyone receiving for bailment [for hire] another's property, which property, together with his own property, is lost or stolen while in his possession, shall return [the value of] that which was given him [bailed with him] for safe-keeping to the owner or bailor. The bailee may recover it [the stolen property from the thief] and shall not be adjudged to have committed an offence.

126. If anyone deprived of property by fraud shall assert his claim thereto under oath he shall receive back from the one practicing the fraud upon him that which he claims [upon proof of his right so to do].

127. Anyone slandering a virgin of the temple or the wife of another person and being unable to substantiate the slander [the truth of which slander he cannot substantiate] shall be marked upon the brow.

128. If anyone takes to himself a wife without a formal contract [of marriage being entered upon], the woman so taken shall not be deemed to be the legal wife [of the man so taking her to his bed].

129. If anyone's wife is captured with another person [committing adultery] both are to be thrown into the water. In case the husband of the wife forgives his wife and the king his slave [no other punishment shall be inflicted].

130. If anyone violates [has carnal knowledge of] the wife of another one, the wife not prior thereto having had knowledge of a man, and the assault occurs in the house of her father and the assailant is captured, he, the assailant, shall be put to death and the woman shall be regarded as blameless.

131. If a husband slanders or brings charges against a wife [to the effect that she is an adulteress] [and puts her aside], though she is not discovered sleeping with another one, she is to make oath before God and [she shall upon making oath as to her innocence] return to her house.

132. If against anyone's wife, on account of another man, accusation is made and she is found sleeping with another man, then shall she jump into the river in place of her husband. [A woman found guilty of adultery shall be drowned.]

133. In event a husband is taken prisoner of war while in his house, and leaves [makes provisions for his wife's support] life sustenance and [after provision for her support has been made] his wife leaves her house and home and goes into another home; she, because she has not preserved the sanctity of her home, but has gone into another house, shall be taken before the court [and on conviction thereof shall be] thrown into the water. [Drowned.]

134. If anyone is taken prisoner of war and there is no life sustenance in his house [and makes no provision for his wife's support] and his wife goes into another house, she shall in that case be adjudged guiltless.

135. If anyone is taken prisoner of war and there is no life sustenance [support provided for his wife] in the house and his wife goes into another house and there are children born to her in the house to which she goes, and later her husband returns to his home, then shall his wife return to him; the children, however, shall follow their father.

136. If anyone leaves his home, runs away [deserts and abandons his wife] and thereupon his wife goes into another house; if then he returns and wishes to take back his wife to himself, the wife of the fugitive shall not return to her husband, because he has torn himself away from his family and run away.

137. If anyone has the intention to cast from him a side wife [concubine], who has born children to him and his legal wife has presented him with children, he shall give to each wife her respective children and give her a useful portion of field, garden and possessions that she may raise her children. [In event of her husband's death and all her children reach their majority] when she has raised her children she shall receive [an allotment

equal to a son's share of his property] a portion of all that her children receive as is allotted to a son. She may then likewise marry the man of her choice.

138. If a man divorces his wife [because of her barrenness], who has born him no children, he shall give back to her the sum of the present from him to her at the wedding [the money he gave her for a wedding gift] and also the dowry which she brought him from her father's house.

139. In event a man marries a woman without presenting to her a marriage portion and subsequently there is a legal separation declared, he shall give to her 1 "mine" of money.

140. If he is a freedman [emancipated slave] he is to give to her $\frac{1}{3}$ of a "mine" of money.

141. In event a man's legal wife shall depart from him after having been guilty of extravagance, and before her departure she is brought to court by her husband and the husband solicits a divorce, which is granted, she shall be permitted to depart and the husband shall not be compelled to compensate her. In event the husband does not desire to be divorced and desires to take another wife, the one deemed guilty of extravagance shall be compelled to remain in the house of her husband as a servant.

142. In event the wife quarrels with her husband and shall produce proof sustaining her justification and she is found to be blameless, she shall [be permitted] to return to the home of her father and in addition thereto receive compensation from her husband.

143. If she is adjudged to be guilty of having dissipated [her husband's property] and neglected her husband, she shall be thrown into the water.

144. If anyone [a man] takes a wife and his wife gives her husband a servant, and the servant has children by him, and the man then declares his intention of taking a side wife [concubine], he shall not be allowed so to do. He shall have no side wife [concubine].

145. If anyone [a man] takes a wife and she does not bear him any children, and he has the intention to take a side wife [concubine], if he takes a side wife and brings her into his house she shall not stand on the same footing with his wife.

146. If a man takes a wife and this one gives her husband a maid as wife, and she [the maid] bears him children, and then this maid tries to place herself on an equality with her mistress, because she has born children, her owner is not to sell her for money, but he is to pay her in silver and reckon her among the servants.

147. If she has not born children, then her master may sell her for money.

148. If any man shall marry a woman and she becomes sick (?) and he then marries another woman, he shall not cast out the sick wife, but shall keep her in his house and support [and protect] her so long as she lives.

149. In event the wife does not desire to live in the house of her husband he shall be compelled to return to her the dowry which she has brought from her father's house and she shall be permitted to take her departure.

150. If a man shall give to his wife a field, garden, house or other property and gives her written evidence of the conveyance and shall thereafter die, in event her sons lay no claim to the property [by way of hire for

services] the widow shall be permitted to bestow upon the son of her choice the estate given her by her husband and is not bound by law to give to her other sons any part thereof.

151. In event a widow marries a second time and her second husband, prior to the marriage, had an estate, this estate shall be exempt from attachment by the creditors of the wife. The wife's estate shall likewise be exempt from attachment by creditors of the husband [provided it was acquired prior to her second marriage].

152. In event the [second] husband and wife jointly contract an indebtedness subsequent to the marriage they shall be jointly liable therefor.

153. If the wife of a man occasions her husband's death, because of her love for another man, she shall be deemed guilty of murder and put to death.

154. If anyone has carnal knowledge of his daughter, he is to be driven from the town.

155. If anyone betroths his son to a girl and the son associates with her [accepts her in marriage] and the father of the son is afterward convicted of having committed adultery with his son's wife, the father is to be bound and thrown into the water.

156. If anyone betroths his son to a girl and his son does not recognize her [accept her in marriage] and thereupon that one [the son's father] sleeps with her, he, the son's father, shall pay her ½ a "mine" of money and shall give back to her everything that she has brought along from her father's house. She may then marry the man of her choice.

157. If anyone sleeps with his mother after his father [has slept with her], then both the wife and son are to be burnt up.

158. If the son of any man is caught with the chief [first or legal wife] of his father, after his father has cohabited with her, if she has born children, he is to be driven out of his father's house.

159. If anyone brings personal property into the house of a proposed father-in-law [in payment to the father for his daughter] and thereafter refuses to marry the daughter, he shall forfeit such property as he has brought in payment for his wife to the father.

160. If anyone brings personal property into the house of his proposed father-in-law and the father-in-law receives the same and then refuses to permit that person to take his daughter from the house, the father of the daughter shall return the property he has received and upon the return thereof shall be discharged from his obligation to the suitor for his daughter.

161. Should anyone bring into the house of his proposed father-in-law and pay to him the grain demanded for his daughter and thereupon is slandered by a third person, whose desire it is to marry the daughter, and the father thereupon refuses to permit the one paying the grain to take his daughter, he, the slandered person, shall be entitled to receive back the grain he has paid to the father of the daughter and the party slandering him shall not be permitted to marry the daughter.

162. Anyone marrying a wife, who shall bear him sons and then die, will not be compelled to return to his wife's father her dowry. The dowry upon her death shall belong to her sons.

163. In event anyone marries a wife and she shall die without issue, the father of the wife shall return to the husband the grain treasure which has been paid him by the husband. The dowry shall revert to the wife's father.

164. In event the father fails to return the grain treasure paid for his

daughter by her husband, her husband shall be entitled to deduct from the dowry, which belongs to her father, the amount thereof, and shall then pay whatsoever remains of the dowry to her father.

165. In event a father during his lifetime gives to a favored son his field and executes conveyance thereof to that son and then dies and leaves other sons, the favored son shall receive from his father's estate the field presented to him during the lifetime of his father and the balance of his estate shall be divided among those not so favored.

166. In event he chooses wives for his adult sons, before his minor sons attain maturity, and then dies, the adult sons shall divide the property equally among themselves, after having set aside a sufficient portion of the estate, to enable their minor brothers to provide grain treasure with which to purchase wives.

167. If anyone marries a woman who bears him children and the mother thereupon dies, and the husband then remarries and has children by his second wife, and thereupon the husband dies, the property shall be divided among all the children *per capita*. The property left by the first wife shall go to her children and that of the second wife to her children.

168. Anyone proposing to disinherit his son shall go before a tribunal and there declare his intentions to so do, whereupon a hearing shall be had and if the son is found to be not guilty of conduct which shall justify his disinheritance, the father shall not be permitted to disinherit him.

169. In event the father establishes misconduct on the part of the son, such as would justify disinheritance, the son shall be forgiven for the first offence, but upon repetition thereof shall be deemed guilty of having committed a grave offence and shall be disinherited.

170. If a man marries a woman who bears him sons and he also has children by a slave, who, during the father's lifetime, were recognized as his sons and declared to be such, and the father then dies, the children of both the wife and the slave shall divide equally the father's estate. Nevertheless the children of the wife shall be preferred in the choosing of the portions of said divisions.

171. In event, however, the father of children by a slave does not recognize them during his lifetime as his children, "my sons," the children of the slave shall not be entitled to share with the children of the wife, upon the death of the father, but the slave and her children shall be emancipated and no claim upon their services shall be permitted to be made by children of the wife. The wife shall be permitted to receive her dowry and the property given her by her husband during his lifetime, by written conveyance, and shall have the use and occupation of her deceased husband's house, so long as she shall live, which house may not be sold upon her husband's death. The property of the wife shall descend to her children.

172. In event the husband has bestowed no gift during her lifetime upon the wife, she shall receive her dowry and in addition thereto, a portion of her husband's estate commensurate with the portion of all of her children. In event her sons eject her from the homestead, she may proceed before a tribunal and there assert her claim; if it be proved that her sons have wrongfully ejected her, she may remain in her husband's house. In event a widow desires to leave her husband's house she shall bestow upon her sons the gifts which her husband had given her, but she may retain her dowry and remarry if she desires.

173. In event a widow marries and there is issue born to her and

thereupon she dies, her dowry shall be divided between the children of her first and second husbands [*per capita*].

174. If she does not bear sons to her second husband the sons of her first husband shall receive her entire dowry.

175. When a slave of the state or the slave of a freedman marries the daughter of a freedman and issue is born of such marriage, the owner of said slave shall not be permitted to reduce to slavery the children of such marriage. If he should so do they shall be deemed to be free children.

176. If a state slave or the slave of a freedman marries anyone's daughter, and after he has married her and she has moved into that one's house, taking with her the dowry of her father's house, they both have settled down and founded a household of their own, have acquired wealth, and thereupon that slave dies, then this freeborn woman shall take her dowry and all that which she and her husband have acquired since their settling down; she shall divide it into two parts and the owner of the slave shall take ½ and the freeborn woman shall take the other ½ for her children. If the freeborn woman did not have a dowry, she shall divide everything into two parts which her husband shall have acquired since their settling down, and the owner shall take ½ and the freeborn woman shall take the other ½ for her children.

177. Any widow, who shall desire to enter into a marriage contract having ungrown children, shall not be permitted to enter into the marriage relation with another person without first gaining permission from the court. If she marries, the value of the estate of her former husband shall be determined by the court and it shall then be given into the custody of the widow and the second husband. The property shall be kept in good order, the children maintained and no disposition [by sale] of the estate shall be made. Anyone purchasing such property shall forfeit the purchase price and the property shall be returned to its owner.

178. If the father of a consecrated one [a virgin of the temple] or a public girl [prostitute for hire regulated by city] has given her a dowry and a certificate thereunto, which certificate contains no provision for the disposition of the property and fails to give her a right to dispose thereof as she may desire, dies, her brothers are to receive her field and garden, according to the size of her share, and are to give her grain, oil and milk and place her in peace [provide for her safe-keeping]. If her brothers do not give her grain, oil and milk, according to her share, and do not place her in peace, her field and garden are to be given over to a farmer whom she approves, and the farmer shall provide for her. She shall have the field, garden and everything which she has inherited from her father so long as she lives, but she shall not sell it or dispose of it to another one. Her child's portion [heritage] belongs to her brothers. [Life interest with remainder to brothers.]

179. If the father of a consecrated one or a public girl has given her a dowry and has given her a certificate thereof, and has specified therein that she may dispose of her dowry to whom she pleases, giving to her full power of disposition thereof, and the father then dies, she may thereupon dispose of her heritage to whom it pleases her to so do. Her brothers may interpose no objection.

180. If a father gives to his daughter—marriageable or public girl—and then dies, she is to receive a child's protection of the paternal estate, and as long as she lives is to have the use thereof. What she leaves

behind belongs to her brothers [life estate with remainder to brothers].

181. In event a father, who dedicated his daughter to the temple, thereupon gives her no dowry and then the father dies, she shall receive from her father's estate [the use of for life] $\frac{1}{3}$ of her portion of the estate so long as she shall live and at her death her share of the estate is to revert to her brothers.

182. In event the father should fail to bestow on his daughter [virgin of the temple] a dowry prior to his death, she shall receive $\frac{1}{3}$ of a child's portion from her father's estate, but she shall not be entrusted with the management thereof. She may, however, make whatsoever disposition of this property by law, as she may desire.

183. If anyone gives to his daughter, who is the offspring of a concubine, a dowry with a certificate thereof, and then gives her in marriage, and the father dies, she is to receive no portion of the paternal heritage.

184. If the father of the daughter of a concubine does not give a dowry to the daughter and does not provide for her in marriage, and the father dies, the daughter's brothers are to give her a dowry in keeping with the paternal fortune, and provide for her marriage.

185. In event of the adoption of a child by a person who shall give to the child his own name and nurture the child to maturity, the [natural] parents of the child shall not be permitted to claim it [of its foster parents].

186. In event of the misconduct of the child he may be returned to his father's house [by his foster parents].

187. The son of a gallant [libertine] in the service of the palace or of a public girl [public prostitute] cannot be demanded back [from the persons who cared for and raised him.

188. If a workman adopts a child for the purpose of rearing him and teaches him his trade, the child cannot be demanded back again.

189. If he has failed to teach him his trade, the son, upon reaching maturity, can return to his father's house.

190. In event an adopted child is not permitted to associate with the children of his foster parents, he may at maturity return to his father's house.

191. If anyone [unmarried] adopts a child and afterwards founds a home and rears children of his own, and then attempts to cast out the foster child, shall not be permitted so to do unless he shall give to the foster child $\frac{1}{3}$ of a child's portion exclusive of his field, garden and house.

192. In event a foster child shall say to his foster father or mother, "Thou art not my father or mother," his tongue shall be cut off.

193. If the son of a gallant [libertine] or of a [gallant's] mistress seeks knowledge of his natural father's home from his foster father or mother, and turns away from them [his foster parents] and goes into his [natural] father's house, then his eyes are to be put out.

194. If anyone leaves a child with a wet nurse and the child dies in the wet nurse's charge, and the nurse then suckles to maturity another child without the knowledge of the father and mother of the child left with her in the first instance, that nurse shall be arrested, because she has nursed another child without the knowledge of the father and mother, and her breast is to be amputated [upon conviction of the offence].

195. Anyone assaulting his father shall suffer the loss of his hands.

196. Anyone destroying the eye of another shall suffer the loss of an eye as punishment therefor.

197. If anyone fractures the bones of another, the guilty one, upon conviction, shall have his bones fractured in punishment therefor.

198. If anyone destroys the eye of a freedman or fractures the bones of a freedman, he, upon conviction thereof, is to pay 1 "mine" of money [as a fine].

199. If anyone destroys the eye or fractures the bones of anyone's slave, he, upon conviction thereof, is to pay ½ of his value [to the owner of the slave].

200. If anyone knocks out the teeth of one, his equal [in rank], his teeth are to be knocked out, upon conviction of the offence.

201. If he has knocked out the teeth of a freedman, he is to pay ⅓ of a "mine" of money [as a fine].

202. If anyone commits assault and battery upon the person of another one of higher rank than himself, he is publicly to receive 60 lashes with the oxhide [upon conviction of the offence].

203. When a freeman commits assault and battery upon another freeman of equal rank he shall pay 1 "mine" of money [to him in damages].

204. If a freedman commits assault and battery upon a freedman, he is to pay 10 shekels of money [to that freedman so assaulted].

205. If the slave of a freeman commits assault and battery on a freeman, his ear is to be cut off as a penalty therefor [upon conviction].

206. If anyone assaults another in a fight and gives him a wound, and upon oath declares he did so without intent, he shall pay the doctor [and be discharged from further punishment].

207. If the assaulted person dies of the blow the aggressor shall, under oath, state that he did not intend to kill; if the decedent be a freeborn person, he shall pay ½ a "mine" of money as a fine [upon conviction of the offence].

208. If the decedent was a freedman, he is to pay ⅓ of a "mine."

209. If anyone strikes a freeborn woman, who is pregnant and thereby causes a miscarriage, the assailant, upon conviction, shall pay 10 shekels of money to the injured party in damages.

210. If the woman dies, then the assailant's daughter shall be killed.

211. If a woman of the freed classes suffers a miscarriage through the assailant's blow, he shall pay 5 shekels of money [to her in damages if convicted].

212. If the woman dies of the assault the assailant shall pay ½ a "mine" as a fine.

213. If the woman assailed is someone's servant and she suffers a miscarriage thereby, the assailant shall pay 2 shekels of money [as penalty upon conviction].

214. If the servant dies he is to pay ⅓ of a "mine."

215. If a doctor performs an operation upon a patient [freeborn] and thereby cures the patient, or if he opens a tumor of the eye by an operation with a knife and the eye is saved thereby, the doctor is to receive 10 shekels of money for his services.

216. If the patient is a freedman the doctor shall receive 5 shekels.

217. If the patient is anyone's slave, the owner is to give the doctor 2 shekels.

218. If a surgeon makes a severe wound with the operating knife on a patient, and the patient dies; or opens a tumor of the eye on anyone and the eye is lost, the surgeon shall have his hands chopped off.

219. If a surgeon performs a serious operation on the slave of a freedman with an operating knife, and kills the slave, he shall give the owner a slave in the deceased one's stead.

220. If the surgeon has opened a tumor on the eye of a slave with an operating knife, and the eye is destroyed, the surgeon is to pay ½ the price [value] of the slave to the owner.

221. If a doctor heals the broken bone of anyone or diseased soft parts, the sick one is to give the doctor 5 shekels.

222. If he be a freedman he is to give 3 shekels.

223. If he be a slave, his owner is to pay the doctor 2 shekels.

224. If a doctor of beeves and asses [veterinary] makes a severe wound on a beef or ass and heals the animal, its owner is to give the doctor ⅙ of a shekel.

225. If he does a severe operation on a beef or an ass and kills it, he is to give its owner ¼ of its value.

226. If the shearer [brander of slaves] without the knowledge of the owner of a slave marks a salable slave with the sign [sign used to designate a worthless slave] of an unsalable slave, the hands of this shearer are to be cut off [upon conviction of the offence].

227. If anyone deceived a shearer and has him brand a salable slave with the sign of an unsalable slave, the party guilty of the deception shall be put to death and his house is to be burnt [provided he be convicted thereof]. The shearer, upon making oath to the following: "I have not marked him [the slave] knowingly," shall be regarded as innocent.

228. If a builder builds a house for anyone and finishes it, the owner is to give him for [every] "sar" of built surface 2 shekels of money as a present [in compensation for his labor].

229. If a builder builds a house for anyone and does not complete it firmly, and the house that he has built collapses and kills the owner, then the builder shall be put to death.

230. If it kills the son of the owner, then the son of the builder shall be put to death.

231. If it strikes a slave of the owner, he shall give slave for slave [for every slave killed] to the owner of the house.

232. If it destroys property, he is to make good all that has been destroyed and, because he has not carried out finally the building of the house [contracted to be] built by him, so that it collapses, he is to build up the collapsed part and furnish his own materials therefor.

233. If a building master builds a house for anyone and he has not carried out completely [his undertaking], and the wall threatens to fall, the builder is to make the wall firm out of his own money.

234. If a shipbuilder builds a ship for anyone of 60 "gur" [capacity] the owner shall give him 2 shekels of money as a present [compensation].

235. If a shipbuilder builds a ship for anyone and does not make it strong, and the ship sails during that year [upon a journey] and suffers injury [by reason of its faulty construction], the shipbuilder shall take the ship apart and rebuild it firmly out of his own materials; he shall build a firm ship for the shipowner.

236. If anyone hires a ship to a skipper and the skipper is careless, and the ship is wrecked or destroyed, the skipper shall replace the ship to the shipowner.

237. If anyone supplies [provisions] a skipper his ship, that is, supplies

it with grain, oil, dates and everything else that belongs to its outfitting, and that skipper is negligent and wrecks the ship and destroys its contents, the skipper shall replace the ship that is wrecked and everything that was destroyed in it.

238. If a skipper wrecks anyone's ship, but saves it [from total loss], he is to pay ½ of its price in money to its owner.

239. If anyone provisions a ship or a skipper he is to be paid therefor 6 "gur" for the year.

240. If a freight boat collides with a passenger ship and wrecks it, the owner of the ship which was wrecked is to seek justice before God [present his claim under oath]; and in event it is sustained, the owner of the freight boat, who has occasioned the wreck of the passenger ship, shall return to the owner of the passenger ship the ship so destroyed [or its value] and everything that was destroyed with it.

241. If anyone forces an ox not belonging to him to labor he is to pay ⅓ of a "mine" of money in penalty therefor.

242. If anyone hires a field ox for a year he is to give to the owner 4 "gur" of grain as hire for the field ox.

243. As hire for the heath (?) ox he is to give the owner 3 "gur" of grain.

244. If anyone hires an ox or an ass, and a lion [wild beast] kills it in the field, the loss falls on the owner.

245. If anyone hires an ox and kills him through bad treatment or blows he is to return to the owner an ox for the ox so killed.

246. If anyone hires an ox and he breaks one of its legs or cuts a neck ligament, the lessee is to return [an uninjured ox] to the owner.

247. If anyone hires an ox and knocks one of the ox's eyes out he is to give ½ of its value to the owner.

248. If anyone hires an ox and breaks off one of its horns, cuts off its tail or damages some part of its mouth, he is to pay ¼ the value in money.

249. If anyone hires an ox and God [an unavoidable accident] strikes him and he dies, then the one who has hired him shall swear before God and be blameless [shall make oath to the circumstances and be discharged from liability].

250. If an ox, while going upon the street, strikes anyone and kills him, there shall be no legal claim for damages [the law will not hold anyone liable therefor].

251. If anyone's ox is a butter [dangerous], and his fault has been pointed out to the owner, who shall fail to wrap its horns and does not restrain the ox, and the ox gores a freeman and kills him, the owner shall pay 2 "mines" of money.

252. If he kills anyone's slave he is to pay ⅓ of a "mine."

253. If anyone bargains [seeks to lease his farm to another] with another one to take care of his farm and trusts him with grain for planting and with draft animals, and bids him to plant the field, and the one to whom the property is intrusted steals the grain or plants raised thereon and takes them for his own use, he shall have his hands cut off.

254. If he takes the planting grain (?) [seed] for himself and does not use the draft beast, he shall return to the owner of the field the amount of the cultivation grain (?) [a sum equivalent to what might have been raised upon the land had he done his duty].

255. If he [the lessee] lets out the draft cattle of the man for rent or

steals the seed grain and does not raise anything upon the field, he is to be arrested and upon conviction of the offence shall for every 100 "gan" pay 60 "gur" of grain to the owner.

256. If [he cannot pay the penalty] his township does not care to pay it for him, he is to be left on that farm among the cattle.

257. The rate of pay for a field laborer is 8 "gur" of grain annually for his services.

258. If anyone hires an ox tender he is to pay him 6 "gur" of grain a year.

259. If anyone steals a water wheel from the field he is to give the owner 5 shekels of money upon proof of his guilt.

260. If he steals a dipping bucket or a plow he is to give 3 shekels of money to the owner upon proof of his guilt.

261. If anyone hires a shepherd to graze out cattle and small animals he is to give him 8 "gur" of grain a year [in compensation for his labor].

262. If anyone ..... a beef or a sheep ..... [tablet defaced].

263. If he [one to whom a beef or sheep is loaned] ruins the beef or sheep that was loaned him, he is to return to the owner a beef for a beef and a sheep for a sheep.

264. If a shepherd who has been intrusted with cattle and small animals for grazing purposes has received the wages that were determined upon [as compensation for his services], damages the beef or small cattle and makes the increase by birth smaller, he shall be accountable to the owner, according to the wording of the agreement for increase and profit.

265. If a shepherd who has been intrusted with cattle and small animals falsifies the natural increase or sells the increase for money, he is to be arrested and [upon conviction thereof] shall return 10 fold the cattle or small animals [so claimed to exist] to their owner.

266. If in a stable a beef is injured by an act of God or a lion [wild beast] the shepherd shall make oath to his lack of fault and produce the injured animal to its owner [and thence go in peace].

267. If a shepherd through his negligence causes injury to cattle in the stable, the shepherd shall compensate the owner in cattle and small animals to the extent of the damage, which he has caused in the stable [to the owner's property].

268. If anyone hires an ox for the purpose of threshing he shall pay for the hire thereof 20 "ka" of grain [for that threshing period].

269. If he hire an ass for threshing purposes the rate of hire is 20 "ka" of grain [for that threshing period].

270. If he hires a young animal for threshing purposes the rate of hire is 10 "ka" of grain [for that threshing period].

271. If anyone rents an ox, wagon and driver, he is to pay 180 "ka" of grain per day [for the use thereof].

272. If anyone hires a cart alone he is to give 40 "ka" of grain per day [for the use thereof].

273. Anyone hiring a laborer shall give him [for his services] from every new year to the fifth month [at the rate of] 6 Grochen of money per day and from the sixth month to the end of the year he is to pay him [at the rate of] 5 Grochen per day.

274. Anyone employing a workman who is a member of an association shall pay him at the rate of 5 Grochen; a potter's (?) wages shall be 5 Grochen, a tailor's wages shall be 5 Grochen, the wages of a ..... (?)

Grochen, the wages of ..... (?) Grochen, the wages of a ..... (?) Grochen, the wages of a carpenter shall be 4 Grochen, the wages of a rope-maker (?) shall be 4 Grochen, the wages of a ..... (?) Grochen, the wages of a mason shall be (?) Grochen, per day.

275. If anyone hires a ship [from another] he is to give for the use of the ship for each day, 3 Grochen of money as rent.

276. If he hires a freight ship he is to give $2\frac{1}{2}$ Grochen per day.

277. If anyone hires a ship of 60 "gur" [capacity] he shall give $\frac{1}{6}$ shekel of money a day as rent therefor.

278. If anyone buys a male or female slave, and before the end of the month the bênu-sickness attacks the slave, he shall give the slave back to the vendor and shall receive back from the vendor the money that he has paid [for the slave].

279. If anyone buys a male or female slave and a claim is laid to them [by a third party] the vendor selling without right so to do is responsible both to the owner and purchaser.

280. If anyone buys male or female slaves in a foreign country, and he goes into that country and the owner recognizes his male or female slave; if the male or female slaves are children of a common country he is to return them without paying money damages [being called upon to pay damages to the owner].

281. If they [the slaves] come from another country the purchaser shall make oath as to the amount of money he paid for the slaves, and the owner shall thereupon pay back to the purchaser the money which he has paid [for the slaves] and take the male or female slaves into his possession again.

282. If a slave says to his master, "You are not my master," and is proven guilty of this [of falsifying in respect thereto], his owner may cut off his ear.

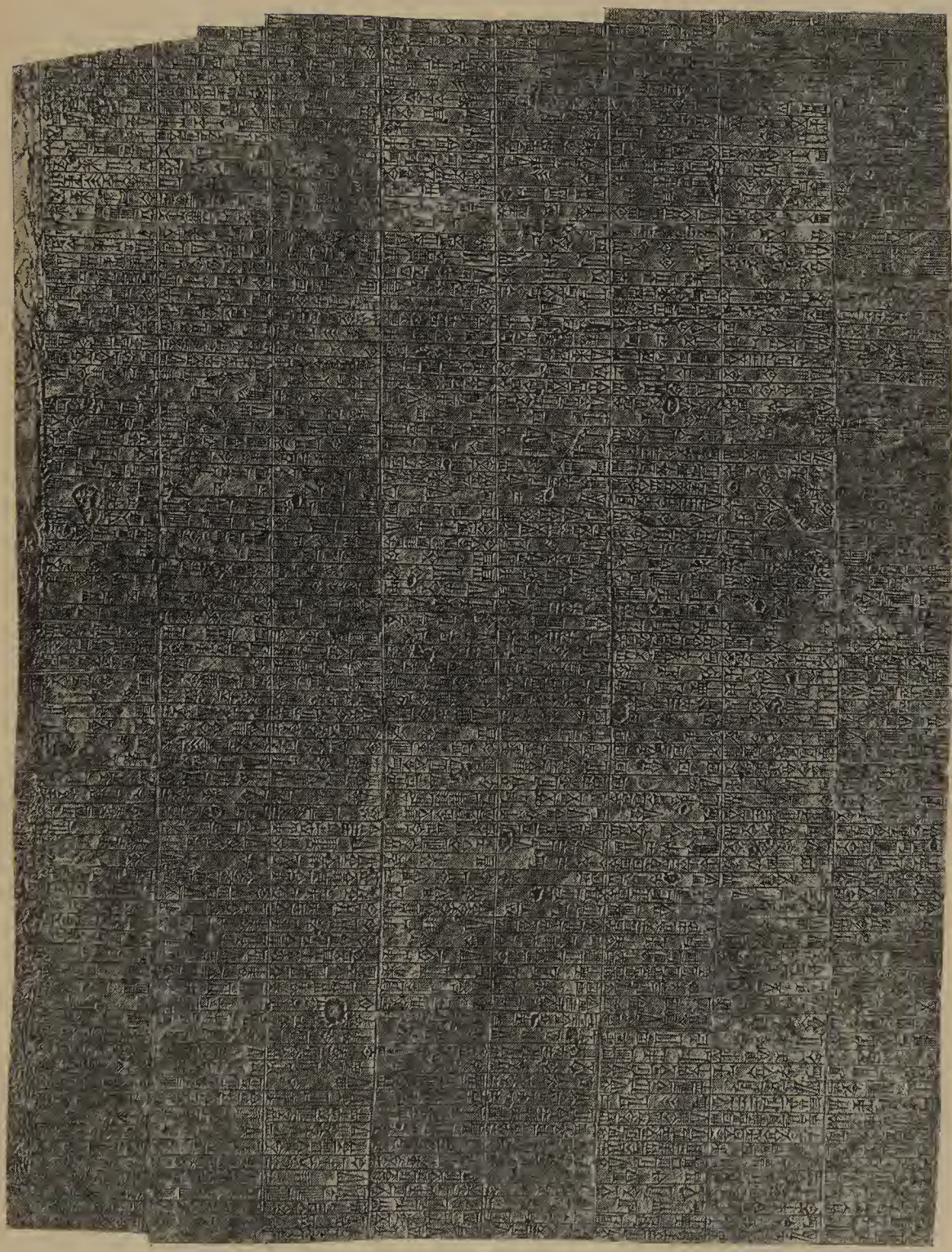
### HAMMURABI'S CONCLUSION

The determination of law of the ever wise King Hammurabi, who taught the country proper law and the pious institutions. Hammurabi, the protecting King, am I. Men, whom Bêl gave me, the government of whom Marduk has given me, I did not flee from; I was not dilatory, I furnished them with residences of peace, I opened steep passes, I let light shine out from them, with a mighty weapon which Zamama and Istar loaned me, with a keen glance which Ea determined for me, with the wisdom which Marduk gave me; I routed out the enemies above and below [north and south], I subjugated the earth, I furnished the country with well-being, the inhabitants of the residences with life and safety, I did not tolerate a disturber of the peace; the great gods called me, I am the good shepherd [sovereign], whose staff [scepter] is straight [just], the good shadow [umbrella], which is spread over my city; at my breast I nurse the inhabitants of the land Sumer and Akkad [Babylonia], in my protection I let them rest in peace, in my wisdom I harbored them that the strong should not injure the weak, to make safe widows and orphans; I have rested in Babylon, I have rested in the town of Babylon, the town of Anu and Bêl their head. In Sagila the temple whose foundations stand firm as heaven and earth, I have in order to speak the right of the land, to determine the matters of conflict, to heal the injuries of, my valuable words I have inscribed upon my memorial stone, upon my image, erected as a king of justice. who rises above the kings of the city am I.

My words are well considered, my wisdom has not its equal; upon the laws of Shamash, the great judge of heaven and earth, righteousness is to rise up in the land; upon the word of Marduk, my master, to my monument destruction is not to happen. In the Sagila that I love, shall my name be for ever, the avenging one, who has judicial matters [not litigation], shall come for the picture of the king of righteousness, shall read the inscription and understand my valuable words, the inscription shall show him [shall explain him its affairs], his justice he shall see [find], his heart shall become joyous [so that he shall say], "Hammurabi is a sovereign, he is a father to his subjects; to the world of Marduk he has furnished a representative for the word of Marduk; he is known above and below [north and south]; the heart of Marduk, his master, he has given joy, for ever has supplied well-being to his subjects; he has brought the land into order." When he has read the record, he is to pray before Marduk, my sovereign, and Zarpanit, my sovereigness, pray with a full heart, then will the protecting deities of the gods who walk in the Sagila thoughts daily speak graciously before Marduk, daily before Marduk, my master, and Zarpanit, my mistress.

If later, perpetually and for ever, the king, who is in the country, shall the words of righteousness which upon my monument I have written, observe, the law of the country that I have given, the decisions that I have ordered, he shall not change, my memorial not injure. If this prince has wisdom and is able to keep his country in order he shall observe the words that I have written in the inscription; standards of conduct and statutes and the law of the land that I have given, the decisions which I have rendered shall the inscriptions show him; his subjects he shall rule according to them [by them], he shall speak justice for them, shall render decisions, he shall weed out of the country wicked and mischievous ones, he shall furnish to his subjects well-being, Hammurabi, the king of righteousness, Shamash presented with the right, am I. My words are well [weighed], my deeds have not their equal to subjugate [reduce] the high one, to humble the proud one, to drive out the haughty. If that prince heeds my words which I have written in my inscription and does not injure my law, and does not misunderstand my words, does not injure my memorial, so may to that prince as to me, the king of righteousness, Shamash, make his rule long, his subjects he shall rule in justice. If that prince does not heed my words which I have written in my inscription he shall have my curse and contempt; does not fear the curse of the gods, defaces the law that I have given, falsifies my words, changes my memorial, extinguishes my name, writes down his name, or on account of those curses despises anyone, that person, with a king or master, Patesi (?) or citizen, whatever his name, great god-father of the gods, who has ordained by sovereignty, let him withdraw the splendor of the kingdom from him, break his scepter, curse his aptness; Bêl, the master, who determines the aptness [suitability] whose order is not changed, who makes my kingdom large, the insurrection which his hand does not control, the wind of his downfall shall he let blow against his towns, years of governmental oppression, short duration of life, years of famine, a darkness without light, a death with seeing eyes, he is to determine for him his fate, the downfall of his city, the insurrection of his subjects, the abolition of his sovereignty, the oblivion of his name and memory, may decree with his weighty mouth. Beltis, the great mother, whose orders are weighty in the E-kur, the mistress who pays good atten-

tion to my wishes at the place of the court and decision, shall make his matter bad before Bêl, the destruction of his country, the destruction of his subjects, the outpour of his life like water into the mouth of Bêl the king shall lay. Ea, the great princess, whose conclusions of fortune go ahead, the thinker of good, who knows everything, who makes long the days of my life, shall deprive of wisdom and understanding, shall lead him into oblivion, his rivers pen up in their springs, and not let grow in his country the grain, the life sustenance of the people. Shamash, the great judge of heaven and earth, who keeps aloft all ways of life, the master of the courage of life, shall break up his kingdom, shall not carry out his right, shall stop his road, shall destroy the courage of his troops, in his dreams face bad prophecies with the extermination of the foundations of his throne and prophesy the downfall of his country. Judgment of Shamash shall overtake him at once, up among the living, cast down his spirit to the earth. He shall let him do without water among the living, without his spirit under the earth. Sin, the lord of the lord of the heaven, the god-father, whose sickle flares up among the gods, shall deprive him of crown and royal throne; the heavy guilt, the great offence, he will not soften; but he cast upon him days, months and years of his rule shall he spend in sobs and tears, he will increase the burden of his sovereignty for him, he shall give him as his fortune a life that shall be like death. Adad, the master of fertility, the prince of heaven and earth, my helper, shall deprive him of the rain in the heavens, the water supply in the springs and shall destroy his land by famine and poverty, and shall rage powerfully over his city and shall reduce his country to flood islands [ruined hills]. Zamama, the great warrior, the first son of E-kur, who goes at my right, shall break his weapon upon his election town, shall turn day into night for him, shall let his enemy triumph over him. Istar, the goddess of battle and slaughter, who frees my weapons, my generous protecting deity, who loves my kingdom, in her angry heart, in her great grimness, shall she curse his kingdom, shall turn his benevolence into misfortune and break his weapon at the place of slaughter and battle. She will bring him disorder and rebellion, shall knock down his warriors, the earth shall drink their blood, heaps of corpses of his troops she shall throw down in the field, a life of mercy not spare him, shall surrender him into the hand of his enemies, shall take him a captive into the country of his enemies. Nergal, the mighty among the gods, whose conflict is irresistible, who lends me victory in his great violence, who shall consume his subjects like a weak reed, with his mighty weapon he will cut off his limbs, he shall break as an earthen image. Nintu, the exalted mistress of the countries, the prolific mother, shall deny him a son, shall grant him no name, among human beings she shall give him no descendants. Nin-karak, the daughter of Anu, who bestows mercy, in E-kur she shall inflict on him severe sickness, bad fever, bad wounds, which will not be healed, whose character the physician does not understand, which he does not know how to treat with a bandage, which like the bite of death cannot be averted, she shall let it come over his limbs till it destroys his life. He shall lament his vitality, the great gods of heaven and earth, the Anunaki, as a whole, shall cast curses and evil upon the surroundings of the temple, the walls of this E-barra, his government, his country, his warriors, his subjects and his troops. Bêl shall strike him immediately with a powerful curse out of his mouth, which cannot be changed.



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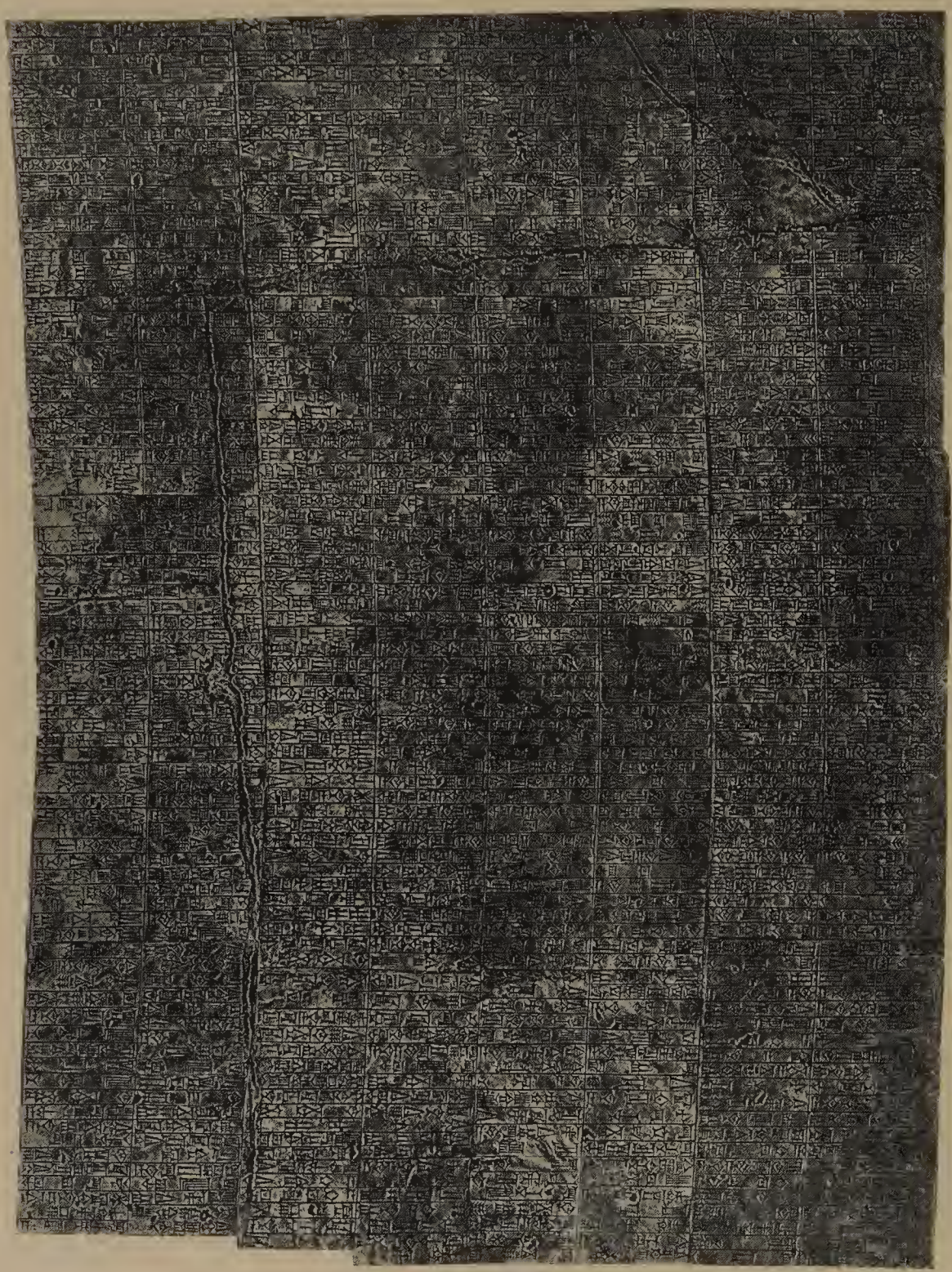

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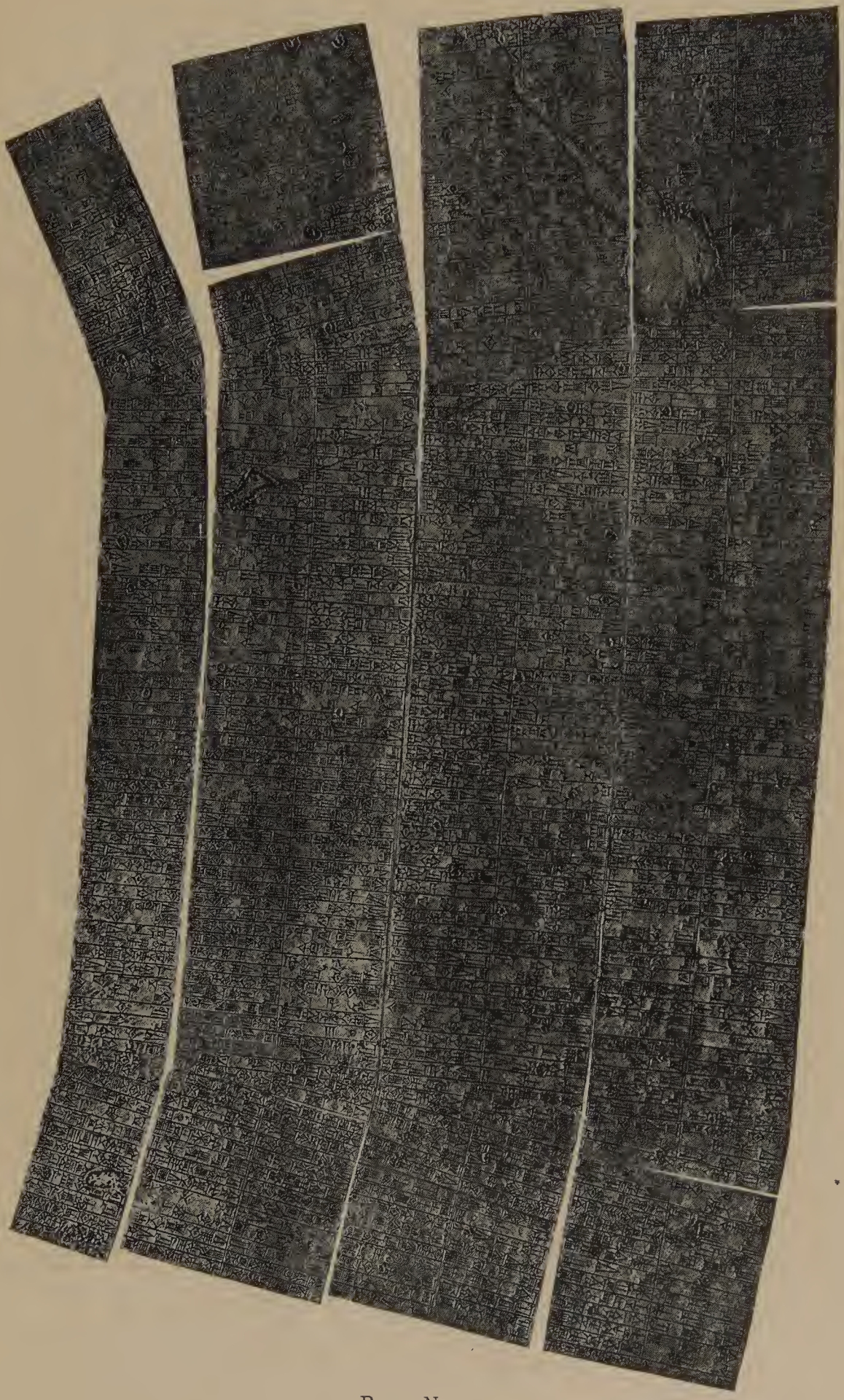

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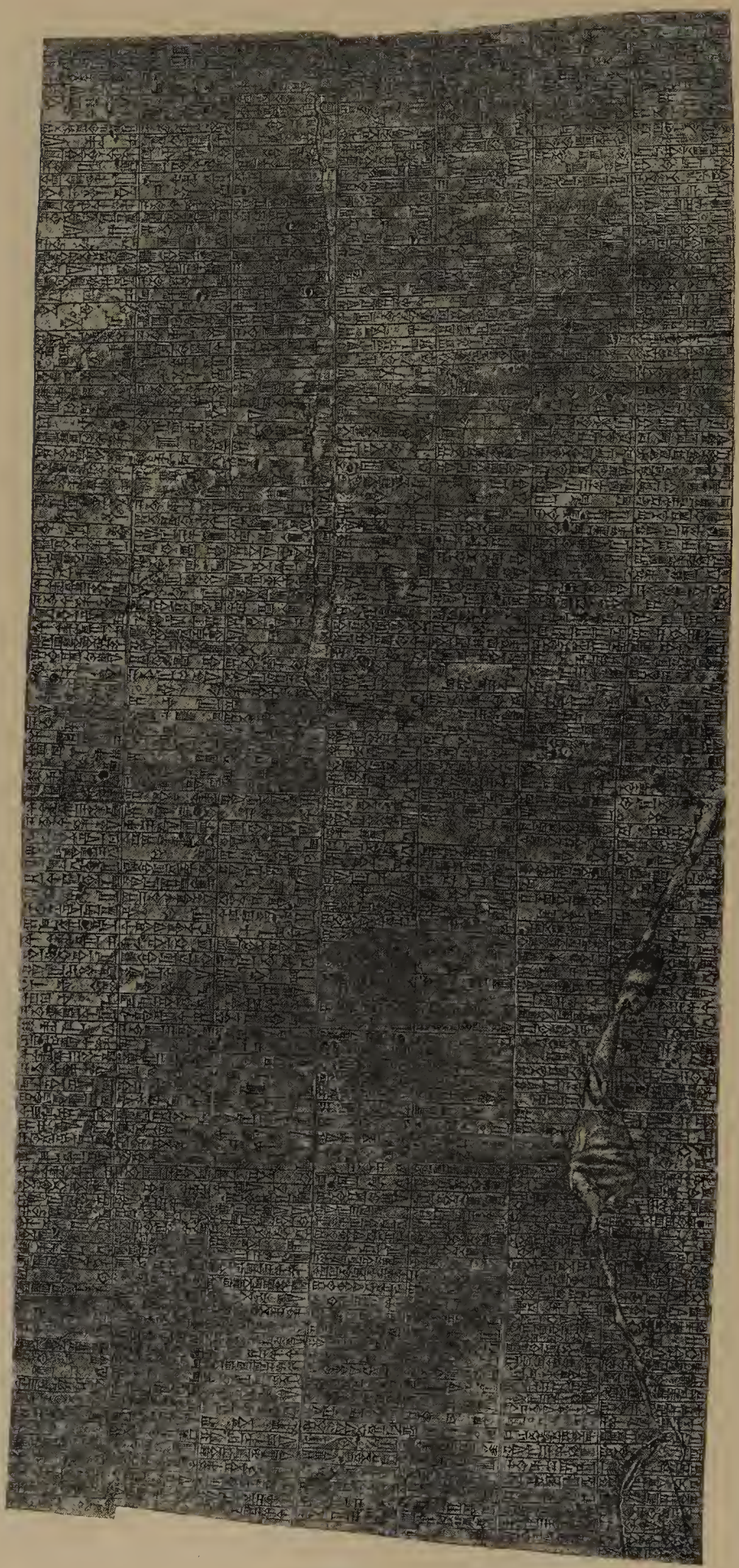

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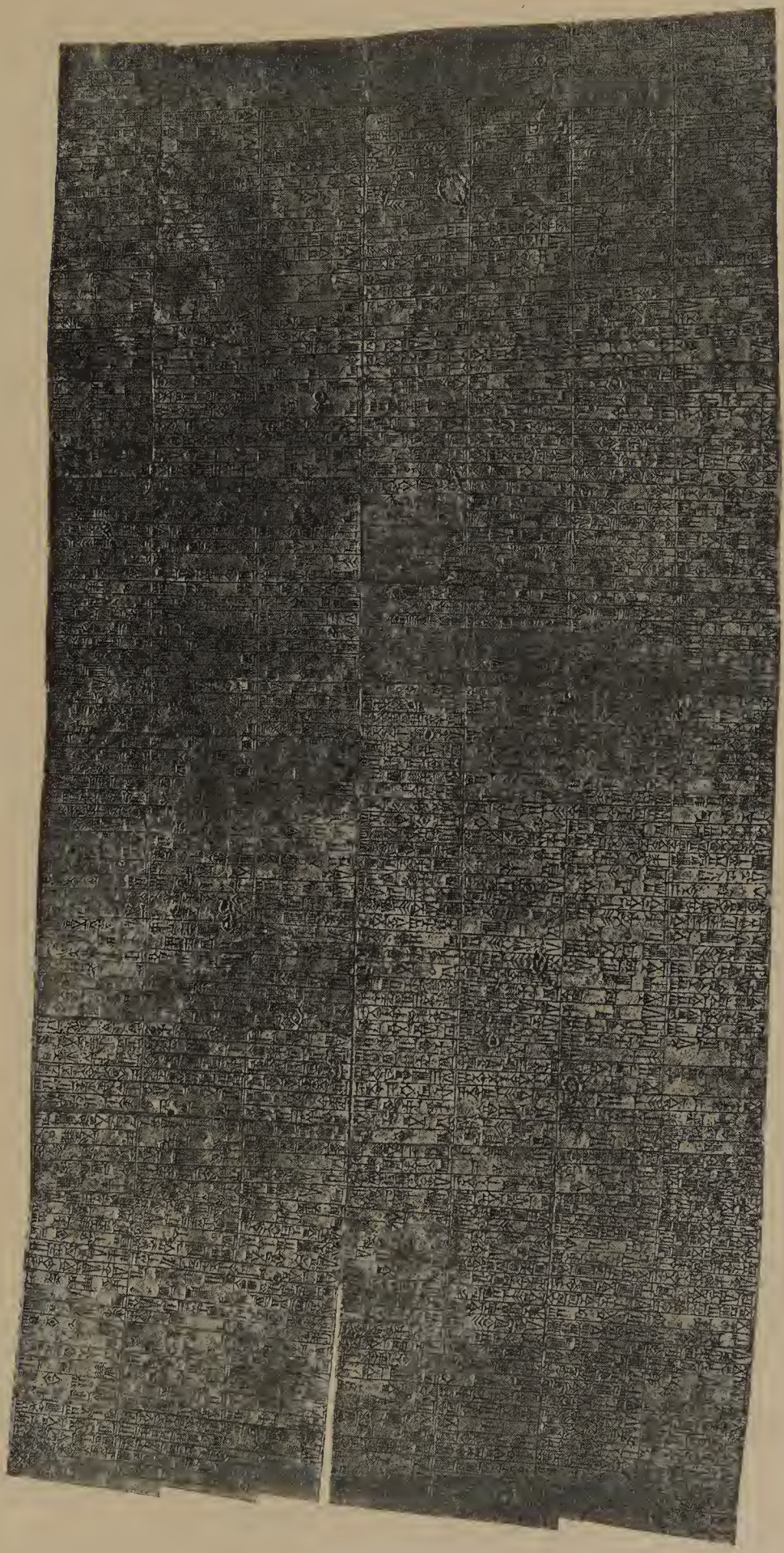

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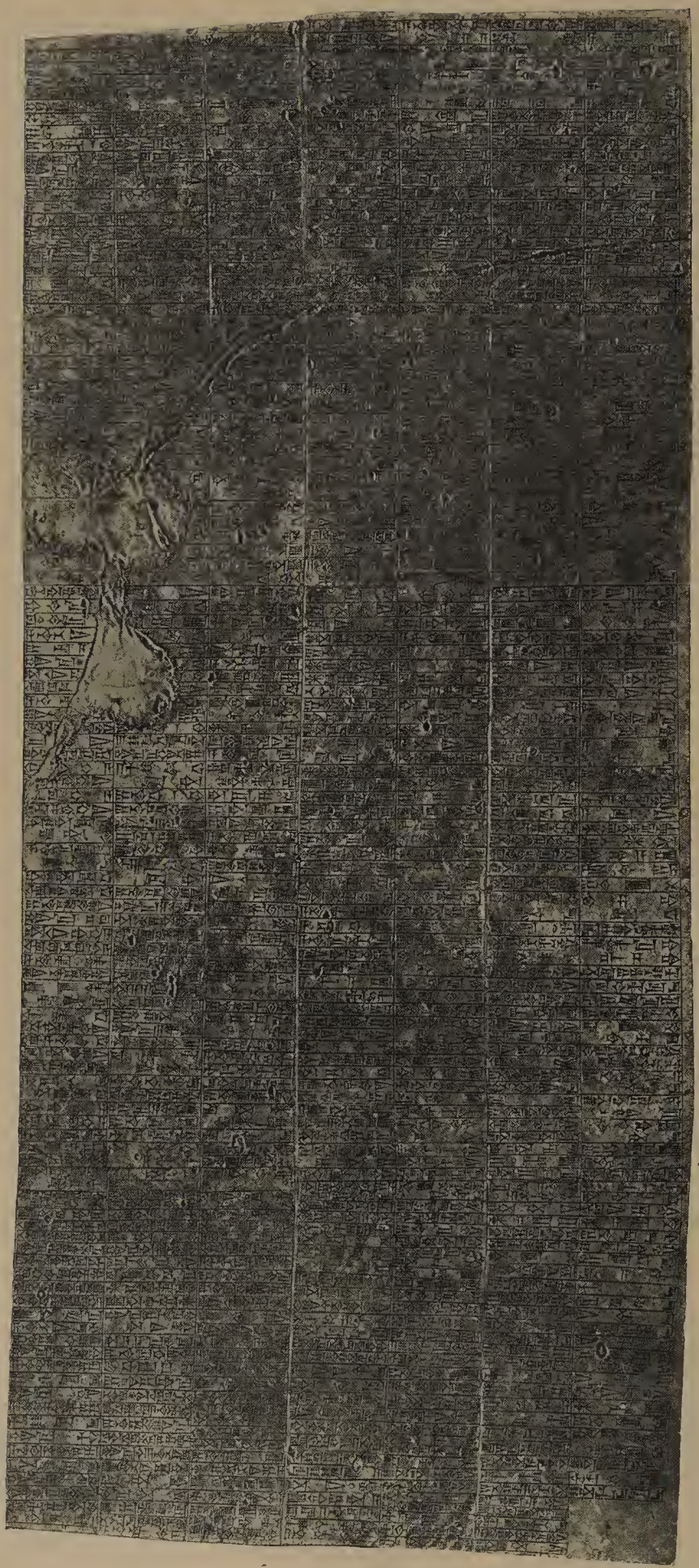

PLATE No. 6

# RECORDS OF THE PAST

VOLUME II APRIL, 1903 PART IV

Volume II

# RECORDS OF THE PAST

Part IV

REV. HENRY MASON BAUM, D.C.L.
Editor

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MR. FREDERICK BENNETT WRIGHT
Assistant Editor

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PANELED FACE OF ASSUR-BANI-PAL'S ZIGGURRAT [FIG. 7]

# RECORDS OF THE PAST

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## THE ARCHITECTURE OF NIPPUR

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NIPPUR at the end of the IV Century B.C. had ceased to be of any importance in the Babylonian world. For upwards of 5,000 years it had been the center of the culture and religious life of the whole nation, but since the advancement of Babylon, 2,200 B.C., its growing power had been slowly robbed of its glory. There was probably a halt in its decay under Cassite rule, but at the time of which I speak it had become merely a collection of mud hovels scattered over its different mounds. Its once crowded Temple was an utter ruin and its gates gaped wide to admit unheeded any who might care to enter into its holy precincts.

However, the glorious City was not so soon to sink into oblivion, for already in a distant land great bodies of a stranger people were preparing to pour triumphantly through the country and eventually the walls of the ancient City were to echo once again with the labors of their countless hands engaged in restoring them to a perfect structure. Not as Nippur the sacred home of the gods, the shrine of the Babylonian Empire, but as Nippur the mighty, the citadel of the Babylonian province, was it to be reborn. Its long history was to have a new era of prosperity, short indeed as compared with the countless ages that it had seen before, but only to end this time because of the total extinction of the whole country and leaving no rival city to triumph over its misfortunes.

This rehabilitation of the ancient City was by a new race with fresh ideas and energies, and in order to understand how they came to exert these upon Nippur we must review the history of the period.

While Nippur was dying of old age, over beyond the waters of the Mediterranean a primitive people, the Greeks, were developing rapidly with the passing years, and soon a time came when they represented all that was great in culture and all that was true and beautiful in the arts. With their wisdom grew their desire for power and territory, so it happened that in the height of their development the conquests of Alexander the Great spread Greek influence over the greater part of Western Asia, implanting the culture and customs of his country wherever he left a garrison. When, in 323 B.C., his death at Babylon resulted in the partition of his empire amongst the most powerful of his generals, we find the smaller kingdoms set up by them continuing these Hellenic notions, naturally including art and architecture, and adapting them to their own more Oriental requirements.

All the region west of the Tigris fell into the hands of the general, Seleucus Nicator, who following out the conquering proclivities of his late imperial master, soon made himself Satrap over the whole of Babylonia. He and his successors held the country for over 70 years until about 250 B.C., when they in turn were pushed aside by the Parthians to make way for their own empire. These latter had been long under the influence of Greece, and if anything, brought with them greater skill in her arts. The Seleucids had doubtless placed garrisons at various points in their kingdoms, erecting fortifications for them, for we find at Nippur some remains of an earlier fortress below the more massive Parthian one. But the Parthians in the full tide of their conquests, dotted the whole country with their powerful defensive works and palaces, the remains of their buildings being found in the upper strata of nearly every Babylonian mound which has been excavated.

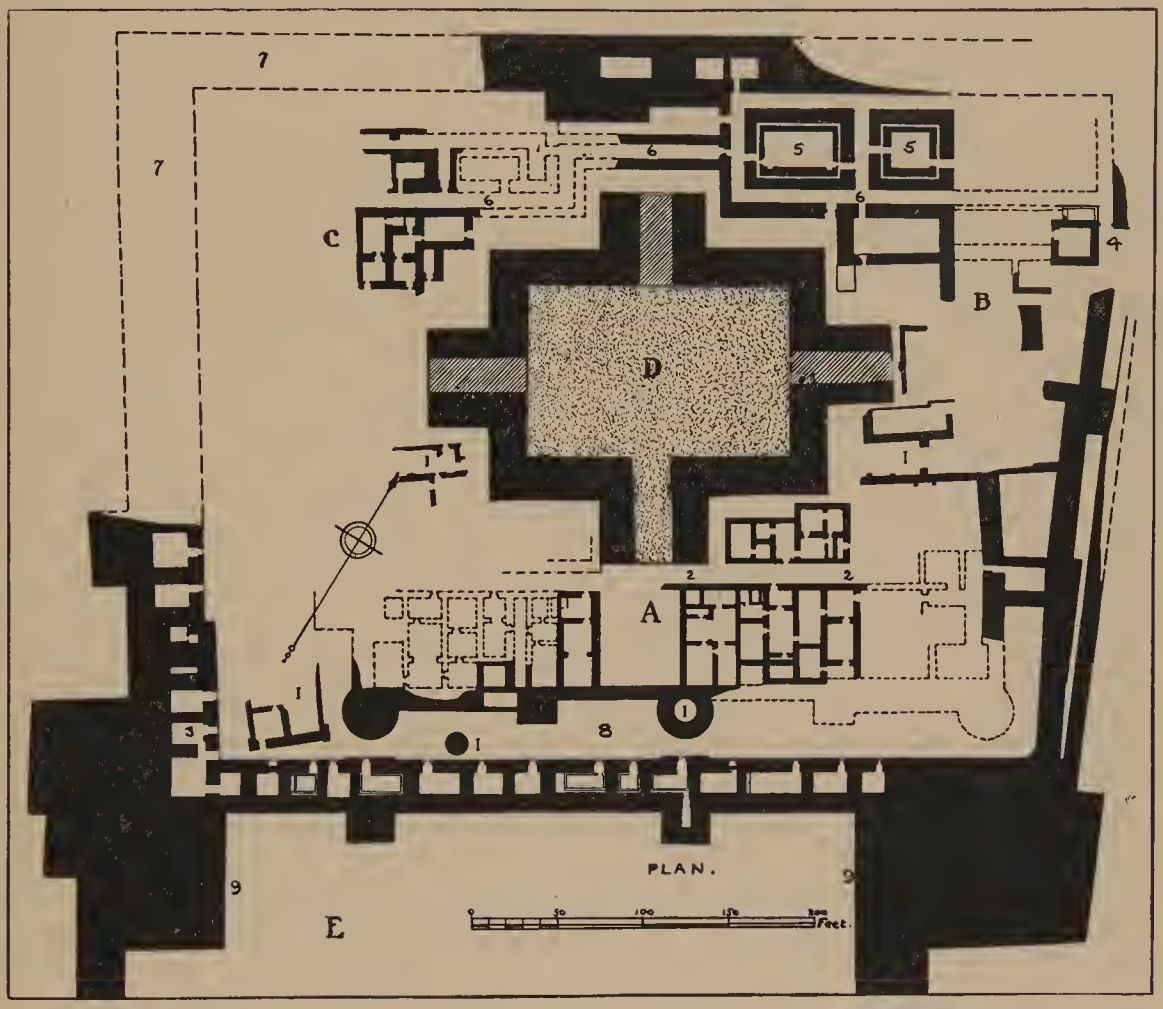
Nippur, situated between the two principal rivers of the country and commanding the great artificial waterway, the Shatt-en-Nil (no doubt at that time still open to navigation), was recognized by them as a most important strategic point, and so they proceeded to erect upon its site the fortress, which so far as is known is unequaled in Babylonia. As I have said there are remains of a probable Seleucidan building of similar construction and with the same kind of round towers as were used in the latter structure, some 6 to 8 feet below the Parthian fortress and at an angle of 8° 10′ with it, but this earlier building is a pigmy compared to the one built over it, and we can therefore give to the Parthians the whole credit for the masterpiece which made a fitting close to the varied architectural history of Nippur.

Before entering upon a description of the architectural results obtained at Nippur, it is necessary to state the amount of material available prior to the closing months of the last campaign in 1900.

When I was preparing to go to Nippur in 1898, I naturally made diligent search for all previously published records. The result was most disappointing.

As the first campaign [1889-1890] lasted a little over 2 months, and was largely tentative in character, we could naturally expect from it little in the way of architectural information. The second [1890-1891] lasted a month longer than the first and should have been more productive of architectural results. Of the third [1893-1896] we have fortunately some few carefully measured diagrams by Meyer, but no scientific data. The same can

be said of the first part of the fourth campaign [1898-1900]. Even after the arrival of the architects in the fall of 1899, only fragmentary plans could be made, owing to the bewildering array of tunnels and trenches, everywhere cutting through walls and pavements, and other circumstances. When, however, Professor Hilprecht arrived on the site, March 1, 1900, his remarkable archæological skill and untiring energy infused order and method into the work, and from this time must date the beginning of the great architectural results which have been achieved. That they are not more numerous in details must be attributed to the facts just mentioned.




THE PARTHIAN FORTRESS [C. 200 B.C.] BUILT OVER THE RUINS OF THE TEMPLE OF BÊL [FIG. 1*]

## THE PARTHIAN FORTRESS

It was the imposing masses of this fortress which led the earlier excavators of the site to suppose that they had found the Temple of Bêl itself, although on every hand were the proofs of the un-Babylonian character of the building; fragments of Greek pottery, lamps, figurines, etc., and the great round defensive towers never found in any purely Babylonian structure. Owing to the large quantities of débris which have been placed on several of the most important parts of the building, we are not able to present a complete picture of this fortress. What we have been able to obtain is shown in the above plan, Figure 1.

Of the original 3 divisions of the fortress, only the inner court and the citadel have been excavated sufficiently to obtain data for a restoration, while the outer court has only been touched upon by the first 2 expeditions and no measured plans of their work are at hand. We can only say that such an outer court [E] did extend towards the south, for we have its enclosing walls extending in that direction, with the bastions 9,9 which defended their junctions with the main wall. Our description will deal only with the inner court and the citadel.

This was an irregular quadrilateral 478 feet long on the S.E. side and 385 feet wide. With the added thicknesses of its enclosing walls it reached a length over all of nearly 560 feet. It was surrounded by a massive wall 40 feet thick at the base and 30 feet at the level of the rooms along its top, 25 feet 6 inches above. At no point was it entirely intact. On the S.E. or principal side 33 feet 8 inches remained of it, and at several other places it reached a height considerably more than this. Like the rest of the building it was composed of unbaked bricks in the shape of truncated pyramids 12 inches square on their largest base and 9 inches thick. These were always placed with their large base upwards and laid in mud mortar. In order to better protect it against the ravages of rain it had an underpinning of baked bricks 1 foot 5 inches deep, running under the wall 5 feet 3 inches. At the E. and S. corners, where I have said the walls of the outer court joined it, were great bastions with several angles, so that the arches on the top could have better opportunity of checking the assailants of the place. Between these two bastions were a couple of square buttresses or towers projecting 17 feet 8 inches and 28 feet and 4 inches wide, facing the outer court, and thus commanding it as well as defending the inner court if the outer one was taken. On the S.W. side, where the wall reached a thickness of 60 feet, there is another similar tower, and doubtless there were others placed at intervals all around the wall. Along the top of the S.E. and S.W. walls as far as excavated we found a series of small chambers opening inwards on to the narrow space [8] which separated the outer and inner walls. Numerous slipper coffins of the latest type were found in these rooms, sometimes below the level of the floor and again partly in the wall which had been cut away to admit of their burial. No positive evidence was discovered of the use to which these rooms were put, but they no doubt served as quarters for the garrison, particularly those upon whom the defense of the wall devolved. On the N.E. wall we can see how the wall was constructed. Instead of making it one homogeneous mass of crude brick, the builders saved in material and obtained just as strong a wall, by making two casings of brick and filling the space between with tufa or clay which has been partly mixed but not molded into bricks. At several points cross walls tied the two casings together. No doubt rooms occupied the top of this wall as well, or at least a portion of it.

Parallel to the S.E. wall and 25 feet inside it at the narrowest point ran the inner wall of the fortress [8]. This formed the wall of the numerous buildings contained in the inner court, and really was the most important part of the whole defensive arrangements, excepting the citadel. It, like the heavier wall outside, was protected by numerous towers. On its S.E. face it had 3 round towers, one at each end and one in the center. Of these only the central and S. towers remain, and they are fine pieces of construction, 38 feet thick, and protected by an underpinning the same as used on the other wall. The central tower has as a core the remains of the smaller

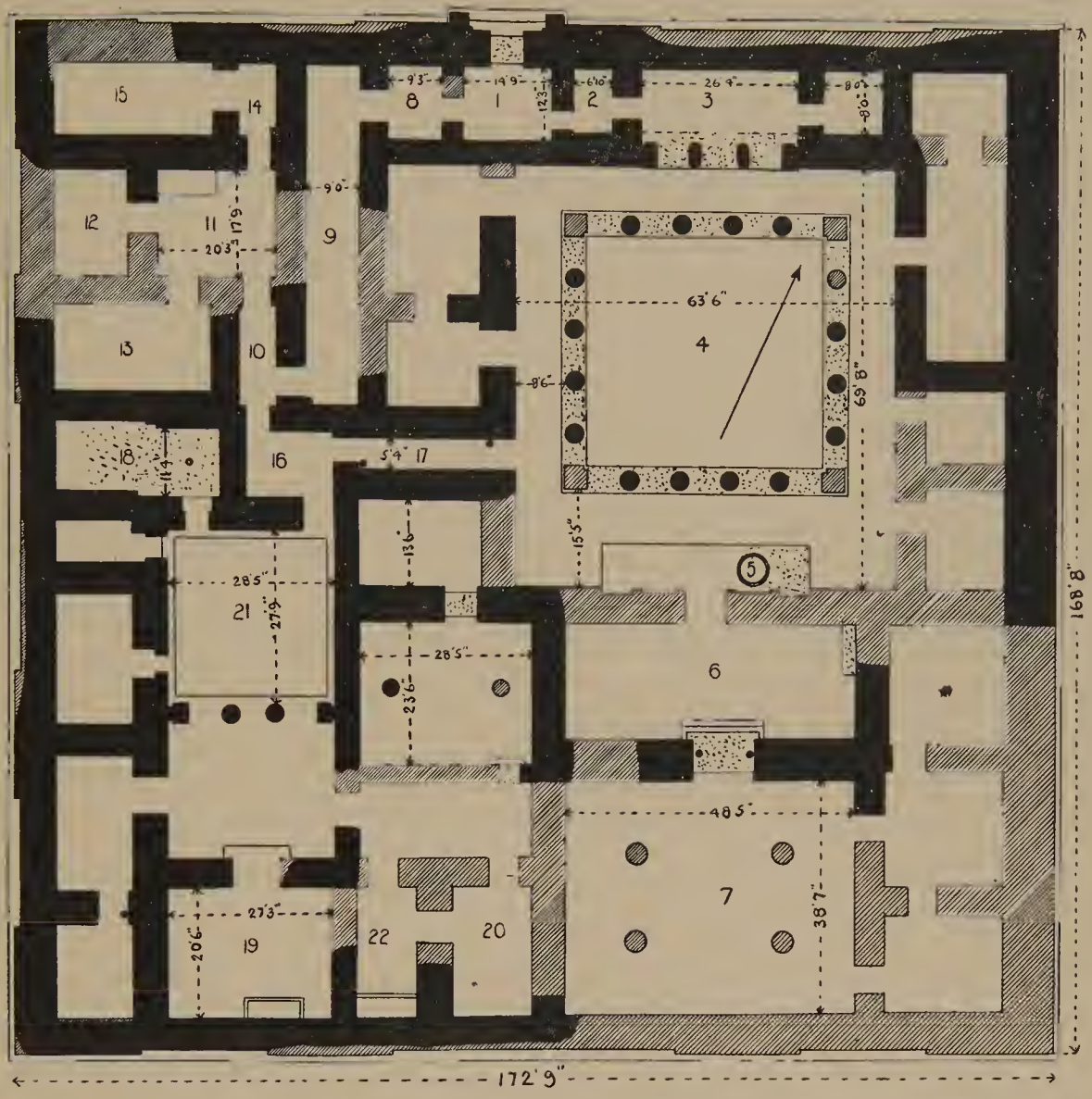
Seleucidan tower which, as it lay in the line of the new wall, was incorporated with it. Its companion was left standing in the space between the walls. Between the round towers were two others 23 feet square. This wall did not seem to surround the entire inner court, as we find the rooms at the rear of the citadel D [5,5] built right against the great wall, and on the N.E. several large irregular rooms are built in the same way, so that there is no intervening space between the two defenses. At no point has any entrance to the fortress been found. The old entrances of the various temple periods lay directly under the central round tower of the inner wall, but the Parthians abandoned this position and changed it to one of the other sides of the place. As the angle towards the W. [7] has been totally ruined by the rains and a resulting landslip, we can never discover any traces in that direction. As the gate does not exist on the S.E. side, this leaves us only the North corner and the ruined West corner as possible sites for it. Now from the general construction of the inner court everything favors the North corner as the main entrance. Let us study the grouping of the various rooms that we may understand why this is so. The whole S.E. side of the fortress A (*i.e.* all that portion lying between the inner wall and the citadel) is filled with a great number of small unimportant rooms which we can at once put down as being used for the barracks, the storehouses, the kitchens and all the varied uses of a large garrison. In many of them "great masses of water jars were piled together" and in others "fireplaces and other arrangements," together with lamps and pots of all shapes and sizes prove this. A street 11 feet wide ran through this general quarter and served to separate it from the more private part to the rear. This section B was much more elaborately and spaciously planned, and we can again say that this was surely the palace or state section of the edifice. Two large halls [5,5], one 21 feet by 41 feet, and the other, 21 feet by 22 feet 6 inches, entirely surrounded by the corridor [6] were undoubtedly the principal reception rooms of the governor of the fortress. They were protected from the intense heat of summer by an air space 18 inches wide in the wall between the corridor and the rooms, while their walls were made thicker than in the rest of the rooms for the same reason. Everything shows that they were intended to be the select parts of the place. Now the corridor [6] following round the rear wing of the citadel leads to another series of rooms which, though not so fine as those we have just noted, are much superior to the barracks on the S.E. We can claim, therefore, that these being so intimately connected with the reception halls, yet so carefully guarded from intrusion, can be no other than the private rooms of the palace, or as it is called in the modern Oriental home, the Harem. Hence it could not be possible for the main entrance to be placed so near to the inner apartments and so far from the public reception rooms. The northern angle would fulfill all the conditions required for such an entrance. We have found here a small door [4] with its jambs of baked brick, and while it is very small for such an imposing palace and opens out on the wall must have served at least as one of the entrances to the building. A portion of this corner remains uncovered, and when we are able to remove the dump heaps which interfere with our work at this point, we will no doubt be able to definitely locate the entrance and fully trace the outline of the outer wall.

From the midst of this complex of rooms and passages rises the great citadel D. It most naturally was built over the remains of the ancient Ziggurrat of the Temple, as the builders found ready to their hands a mass of

baked and unbaked brick of a shape which made it easily conform to their requirements. The last Ziggurrat, that of Assur-bani-pal, was 128 by 190 feet, with its four sides faced with baked brick. This the Parthians altered into a defensible citadel by the addition of several extra feet of covering and four arms extending out perpendicularly to the sides a distance of 30 to 50 feet. These, as in the case of the wall towers, gave the occupants a command over the whole of the different quarters of the fortress beneath and made the repulse of any party attempting to scale the walls of the citadel itself more easy. The great importance attached to this part is shown by the care exercised in its construction. Although it was a solid mass of crude brick laid over the earlier ruins, its faces were protected by a covering of baked brick some 2 feet thick [Fig. 2], the material for which was taken from the old temple below it. We may consider the citadel as being built in two stages, the lowest with the projecting wings about 30 feet high, and the second, smaller in size, so as to allow of a wide terrace all around it, about 20 feet more. It is also more than probable that there was a small group of rooms above this, *i.e.*, on the second platform, for since the citadel would be a place of final resort, to which all the surviving defenders would retreat, it would naturally be supplied with living accommodations, not only as a protection against the weather, but also against the missiles of the besiegers. However, no faces of the second stage or traces of any buildings on top were discovered, our height for the second platform being based approximately on the amount of débris which remains above the first stage. Another evidence of the precautions taken is the well sunk down through the solid mass of brickwork of the previous temples to the water level. An immense amount of time and labor must have been expended upon this, and it was worth it, for in case of the worst happening, the taking of the inner fortress, the defenders could still hold out for some time by its aid. The approach to it lay probably at the north angle, where the character of the lower stage was different from the other three corners, but from the records left us we cannot definitely settle the point.

### THE LITTLE PARTHIAN PALACE

Although situated on the opposite side of the Shatt-en-Nil, in what was during the ancient days the business section of Nippur, I treat of the little Parthian palace after the great fortress, because it belongs to the same period and had the same builders. Similar great blocks of crude clay are used and many of the general characteristics of strata, burials, etc., are the same. It was first discovered by the expedition in 1889, but only the central court was exposed with a few adjoining rooms, which, however, had never been correctly measured or drawn. The third campaign cleaned out the débris which had accumulated in the previous excavations, but did no further work on the building itself. After the arrival of Professor Hilprecht in 1900 the clearing of this portion of the site was undertaken with energy and our labors were rewarded with the almost complete plan of this beautiful palace [Fig. 3]. What little was missing was easily restored from the fragments of jambs, etc., which remained. At the West angle the rooms 9,11,12 were nearly destroyed by a careless trench driven right through them during the first campaign, but by digging systematically we were able to obtain traces of the walls on both sides. So too on the East angle. Here, Dr. Peters states [*Nippur*, vol. II, p. 182], "everything was washed away, and it was impossible to obtain any clue for a reconstruction of the building on this



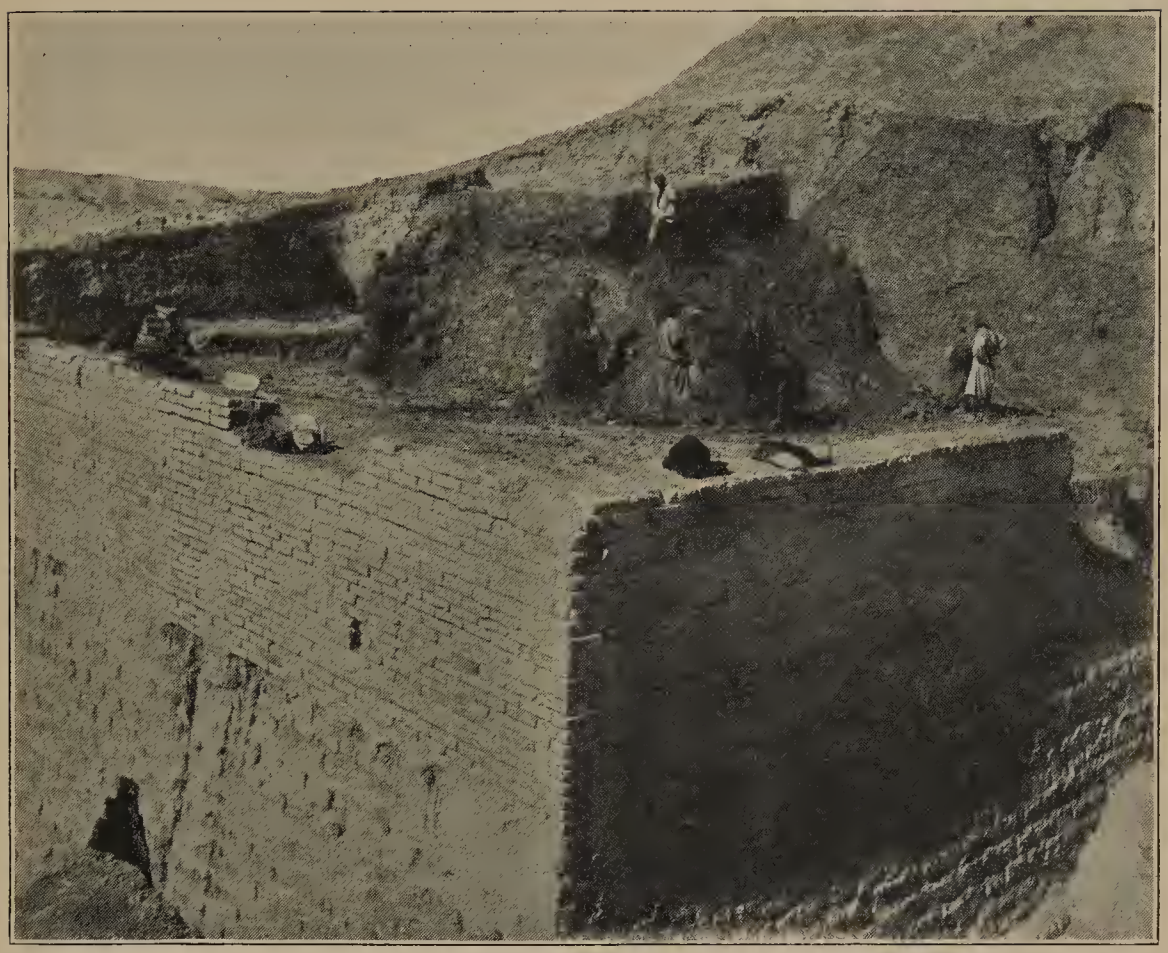

LITTLE PARTHIAN PALACE [FIG. 3]

side." He was so sure of this that he placed a dump heap on the spot, and we were again, shall I say more fortunate in finding beneath it not only fragments of the walls that existed here, but the doorway of the great hall of the palace itself, with its little flight of steps, its 2 door-sockets in place, and numerous fragments of the iron nails and bolts which had been part of the wooden doors. With the exception of these two gaps the building was nearly complete and, as I say, the restoration was a comparatively simple matter. The following are the main features of this fascinating building.

We may consider it as being built in the form of a square 170 feet on a side, although here, as in most of the ruins, the builders were unable to lay out their work accurately on a large scale, for each of the 4 sides differs, the longest, the N.W., being 174 feet, and the shortest, the N.E., only 168 feet 8 inches. The main façade was towards the N.W., and here was a very elaborate entrance, whose details give us the first evidence of the Hellenic character of the building. Three broad steps led up to the door. The lowest of these, by returning against the wall, forms a plinth for the

whole feature to rest upon. At either side were pedestals, a little over 4 feet high, with base and cap mouldings. Although they were made up of common brick cut to shape, the beautiful curves display by their refinement if not a special training in Hellenic art, at least an intelligent copying of their Greek prototypes. The pedestal had not a straight face, but a delicate curve outwards from the base, so that the top projected a few inches beyond it. The whole was plastered with white lime mortar, carefully smoothed off. These pedestals evidently supported fluted pilasters, for we found traces of flutes on one side, but badly broken. On top of the pedestals were also small ornamental pediments of brick.

We enter a small vestibule 1 [see Fig. 3] from which open 2 doors, that to our left hand leading to the men's or public section and that to the right to the women's part. We will deal with the men's quarter first, as it is not only the largest part of the house, but the more ornamental as well. After passing through an anteroom [2] we reach the loggia [3], opening on the great courtyard [4], from which it is separated by 2 columns in antæ, of baked brick covered with stucco. These are not round columns, but rather two half columns built on either side of a square shaft. As they were placed in the line of a main wall the object of this construction is very evident. The main court, a means of lighting and airing the surrounding apartments, was 63½ feet by 69 feet 8 inches in size. Its center was open to the sky and a covered colonnade surrounding it, 8½ feet wide, connected all the rooms of this quarter. Twelve only of the columns out of the original 16 which formed the colonnade were in place, for the 4 on the East side as well as all of the four square piers at the corners were traceable only by slight indications of their bases. The columns had a diameter at the base of 2 feet 9½ inches, and from the one which lay prostrate we know that they were at least 12½ feet high. These, as well as all the columns and antæ in the building were of baked brick plastered. On the East side a few fragments of a capital were found. Here again the builders had tried to adapt the material of the country to the forms they were used to seeing. These fragments cut to radius had the shape of the Greek echinus and fillets, so that reconstructed they give us a pure, if somewhat crude copy of the Doric capital. That they were not so successful in their attempt with these as with the entrance mouldings we may put down to the fact that they had to construct from 12-inch bricks a capital to crown a column over 2 feet wide at its top, and not a straight moulding as in the former case. On the South side the colonnade widened out to 15 feet 5 inches, to make a more effectual entrance to the principal hall. Here on a broad step before the door stood a round altar [5], a thing never missing from the true Hellenic court. This was mistaken for the base of a huge column by the first expedition, but the absence of another on the opposite side would preclude this idea, even if we had not the evidence of its size and position. The space between this step and altar was cut up by a deep trench, so that we could determine nothing of the character of the pavement or wall. It is easy to suppose, however, that this was occupied by the vestibule [6] of the Megaron or men's hall, for at its southern end was the doorway we have already mentioned. Three low steps led up to it and the door sockets at each side show it to have been a double door. Fragments of the hardware were scattered around. The hall [7] into which this gave admittance was by far the largest in the palace, 38 feet 7 inches by 48 feet 5 inches in size. Only the entrance remains to us, but its dimensions, which we can restore, would lead us to suppose that



S.E. WING OF ZIGGURRAT, SHOWING BRICK FACING [FIG. 3]

COURT OF LITTLE PARTHIAN PALACE FROM MEN'S HALL [FIG. 4]

it had columns to support its roof, in which case it doubtless had a raised skylight after the fashion of the palace at Tiryns and other Hellenic ruins which have come down to us. Beneath this would have been the low hearth usual in the men's hall. Fig. 4 gives us the view from this room through the door out into the great court.

The various rooms around the court and those opening off the Megaron were used as sleeping apartments or for storage. As all this part of the house was public, we find it very carefully shut off from the rest of the building. Besides the entrance at 1, we have only the narrow passage 17, guarded by a strong door at either end, connecting with the more private, or Harem section. We will now consider the details of this secluded portion. When we entered the vestibule 1, we turned to the left to reach the men's apartments. Turning now to the right in the same room, we have to pass through another small room [8] similar to that on the other side [2], into a long corridor 9. At the far end of this is a little room [10] with 1 door opening to the servants' quarters and another to a vestibule or anteroom [16], into which latter the passage from the men's court [17] also leads. We now enter the women's court [21]. The arrangement is similar to that on the men's side, but on a smaller scale. The court is but 27 feet 9 inches by 28 feet 5 inches, and lacks the beautiful colonnade. We have, however, a deep porch on the South side serving as a screen to the women's hall [19]. This porch or loggia is divided from the court by 2 round columns in antæ. A single step leads to the door of the lesser hall, an insignificant room compared to the fine one in the other section. The room to the east of the smaller court with its two columns, is even slightly larger and may have been the chamber of the lordly owner himself. One of the most interesting rooms of the palace lay on this side. In the upper corner of the women's court a small door leads into a complete bathroom, 11 feet 4 inches wide by 27 feet 3 inches long. The floor is laid with baked bricks set in bitumen and covered with a layer of the same material. It was graded carefully to a point opposite the door where a deep vertical drain was placed to receive the water. A row of tiles around the edge of the room kept the splashing water from damaging the unbaked brick of the walls.

We mentioned above a door opening off room 10 leading to the servants' quarters. These we identified as such by their being isolated from the rest of the rooms and being with one exception all small. This exception [11] had a great interest for us, as it illustrates very well the risks as well as the inaccuracy of the promiscuous trench system. It was one of the rooms partially destroyed in 1889, but strange to say the chief feature of it was left untouched. This was a perfect hearth built of brick and with a stone spit all complete, situated in one corner. Beside it were two water jars, part of the equipment of the cook, who seems to have abandoned everything in a hurry. Perhaps we can see a reason for this in the traces all over the palace, of the conflagration which had destroyed it.

The building must have presented a very plain appearance from the outside, as besides the door there were no other openings, for they would naturally light and ventilate their rooms from the two courts and the kitchen, probably also open to the sky. On three of the sides we have traces of paneling, showing that on these sides at least there were open spaces. On the N.E. the wall has a different character, not only being thicker, but utterly devoid of any ornamentation. Outside this were traces of walls, and it is likely that another building adjoined it on this side.

THE ZIGGURRAT AND ITS APPROACH, TEMPLE OF BÊL [FIG. 6]

TEMPLE GATE BELOW PARTHIAN TOWERS [FIG. 8*]

On the floor of the large court and in several of the rooms were found some of the ashes of what had evidently been the roof of the building. The customs of the country have altered so little since the days of the Parthian palace that I can consider that the method of roofing employed on it was similar to that in use to-day. The process is simple. Palm logs are laid across the open spaces and coarse straw mats are spread upon them. Brushwood or straw is now laid over the mats to a depth of a foot or more and then mud is placed upon the roof and rolled or stamped down hard. Sometimes a coating of bitumen is spread over the mud to render the roof more permanent and waterproof.

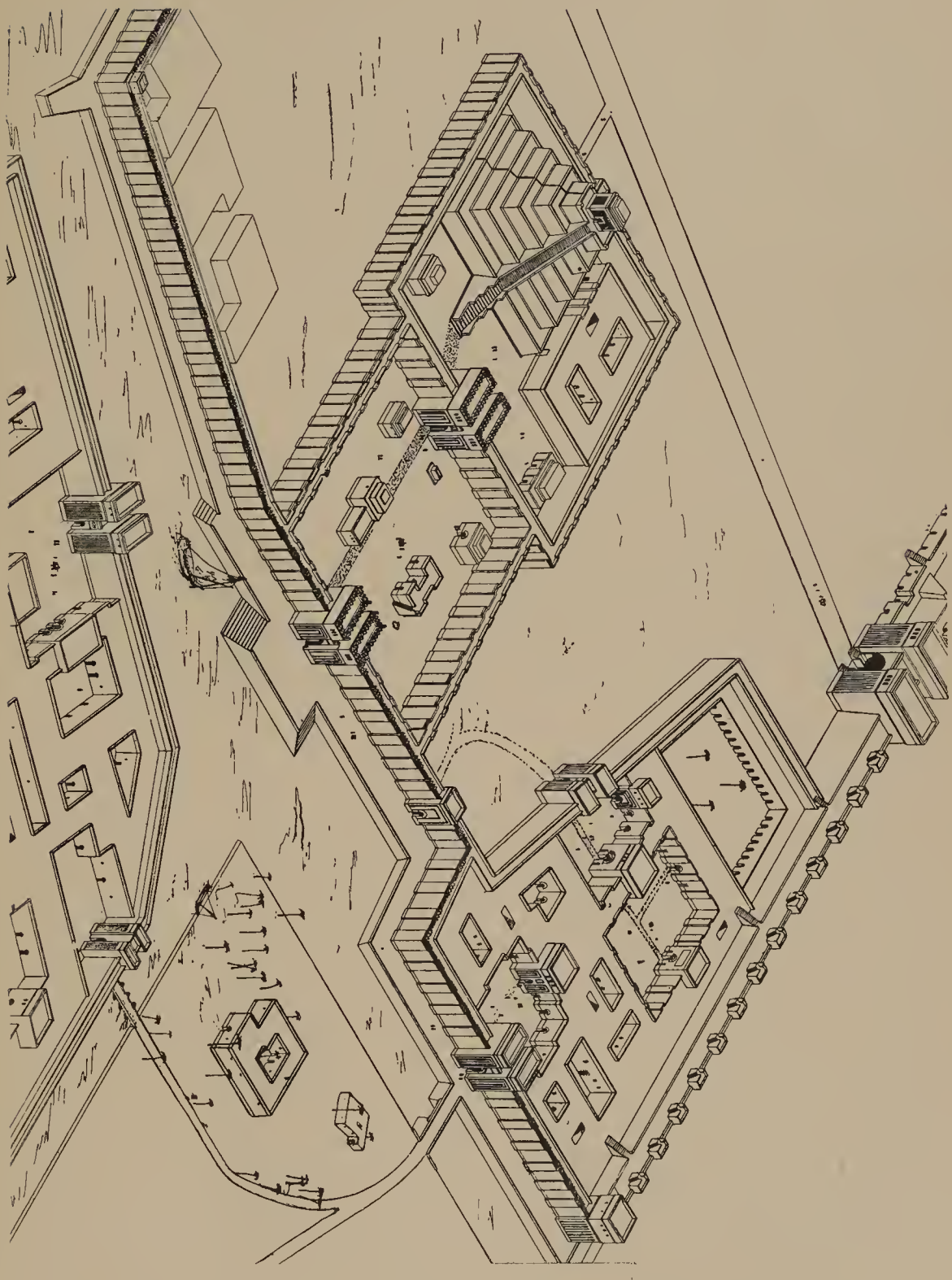
Fig. 5 gives a section through the entrance vestibule, the great court and the men's hall, showing their relation to each other and the system of roofing as restored on the principles described above. It also shows the arrangement for admitting light to the great hall, based, as I have said before, on the Megaron at Tiryns and elsewhere.

### THE TEMPLE OF BÊL

Returning to the other side of the Shatt-en-Nil, we will now consider the structures below the Parthian fortress. Immediately under it are the fragmentary traces of the Seleucidan fortress with which we need not at present concern ourselves. They are indicated by I on Fig. 1. The next in importance is the last reconstruction of the great Temple of Bêl, by Assur-bani-pal about 650 B.C. The Ziggurrat has always been the point where most of the excavating has been done, but owing to its enormous bulk little of it has been removed. To study fully the intricate problems which this huge stage-tower presents, it will be necessary to carefully peel away its several layers, one after the other. It has been supposed that the mass as it stands was entirely the work of Ur-Gur, and that his Ziggurrat was the first as well as the last to be used at Nippur, only being faced or restored by later rulers. Professor Hilprecht in a few weeks was able to demonstrate that this theory was entirely erroneous, and that while Ur-Gur certainly did reconstruct almost the entire Ziggurrat, he merely followed on the lines laid down by builders ages before his time. Both inside his work and below it are the remains of much older stage-towers.

When Assur-bani-pal came to rebuild the temple, he found the sides of its Ziggurrat, or at least its front, faced with baked brick. This he left as it was, merely patching it where necessary. The other 3 sides, perhaps badly ruined or only of unbaked brick, he covered with a new paneled facing [Fig. 7], carrying out the same details of watercourses, etc., which existed in the previous building. He relaid a pavement over the whole courtyard and very likely rebuilt the temple wall itself, although all traces of this have disappeared [Fig. 6].

At the varying depths below his pavement are the pavements of earlier Temple builders. Kadashman-Turgu is 2 feet below, Ur-Ninib $4\frac{1}{2}$ feet, Ur-Gur $6\frac{1}{2}$ feet, while $14\frac{1}{2}$ feet below is the splendid double pavement of Naram-Sin, 3,750 B.C. We have some of the building operations of each of these men, but no complete structure of any one of them, nor even any record of parts of their work which have been removed. Here again Prof. Hilprecht has demonstrated his archæological skill and gathered together many of the scattered fragments and for the first time enabled us to obtain a true and conclusive idea of the structure and uses of a Babylonian temple.



In the above plan I have embodied the results of Professor Hilprecht's strenuous labors and studies on this site, and this will serve to give us our first true impression of the great Temple of Bêl as it existed in the last III Millenniums of its history, with its relation to the library in the foreground, the patesi's or high priest's palace on the right (unexcavated), and the great city gate in the background.

We have the position and character of the Ziggurrat and also the walls of the Temple proper as well as its principal gate. This latter was really uncovered some years ago, but strangely enough it was not then known what it was. Fig. 8 shows how it was situated below one of the round towers of the Parthian fortress. The importance of its paneled faces was not realized, and so it remained incomplete while the search for the Temple gate went on in various other parts of the court. During the latter end of the last campaign we were fortunate enough to be able to remove the mass of the late tower above and found outside the 2 sides similar to that within. The side opposite to the one in the photograph was destroyed by a vertical shaft cut by one of the early expeditions, but the other 3 perfect sides left us with no doubts as to the shape and purposes of the structure. The uncovering of this led to even more important results, for having previously found part of a paneled wall to the east of the gate, we followed it up and proved its connection with it. We then continued it to the west uncovering it completely. At each end we found that the wall turned at a right angle towards the southeast, and these walls were traced a sufficient distance to show that they represented the enclosing walls of an outer courtyard of the Temple.

What a different picture of the great Temple of Bêl to what we have been previously led to imagine. [Compare Fig. 9 and Fig. 2.] The real Temple of Bêl was divided into two courts. [Fig. 9.] B, the outer one, was for the general public, and contained the shrines of Bêl and other divinities then in vogue, and was about 260 feet square. The gate [Fig. 8] connected it with the inner court. This is quite similar to those found at Nineveh, but somewhat smaller, while its age is far greater, before the reign of Ur-Gur, 3,000 B.C. The passage through it was only 6 feet wide, but at each end it was increased by a series of stepped recesses to a space 14 feet in width. We can suppose that these formed an ornamental jamb to the arched entrance. On both sides rose the great masses of the towers or pylons which gave the gate its imposing appearance. Both the front and inner faces were paneled, as was the whole outer surface of the wall. The depth of the gate was about 52 feet and its width on the outer face was the same. Halfway through its narrow passage were two guard chambers, one on each side. No socket was found *in situ* belonging to this period, but one in a strata above of the time of Assur-bani-pal, having the same relative position to the gate of its own period, would lead us to believe that the older gate swung in the direction of the vault to the east.

The inner court [A] was undoubtedly used exclusively for those intimately connected with the religious observances of the Temple, and the general public could come no further than the outer court. On entering the mass of the Ziggurrat rose immediately in front. Its lower stage was 128 feet by 190 feet and about 20 feet in height. The second stage was set back 8 feet on its three principal sides and about half as much at the rear. In fact, the whole stage-tower was placed very close to the rear wall, leaving hardly room for the smaller gateway which was found there. There were probably only 5 stages to the Nippur Ziggurrat, the height of each decreasing in a more or less regular ratio. On the summit was a small shrine, to which access was gained by the long flight of steps which, starting near the entrance gate, ran unbrokenly to the uppermost stage.

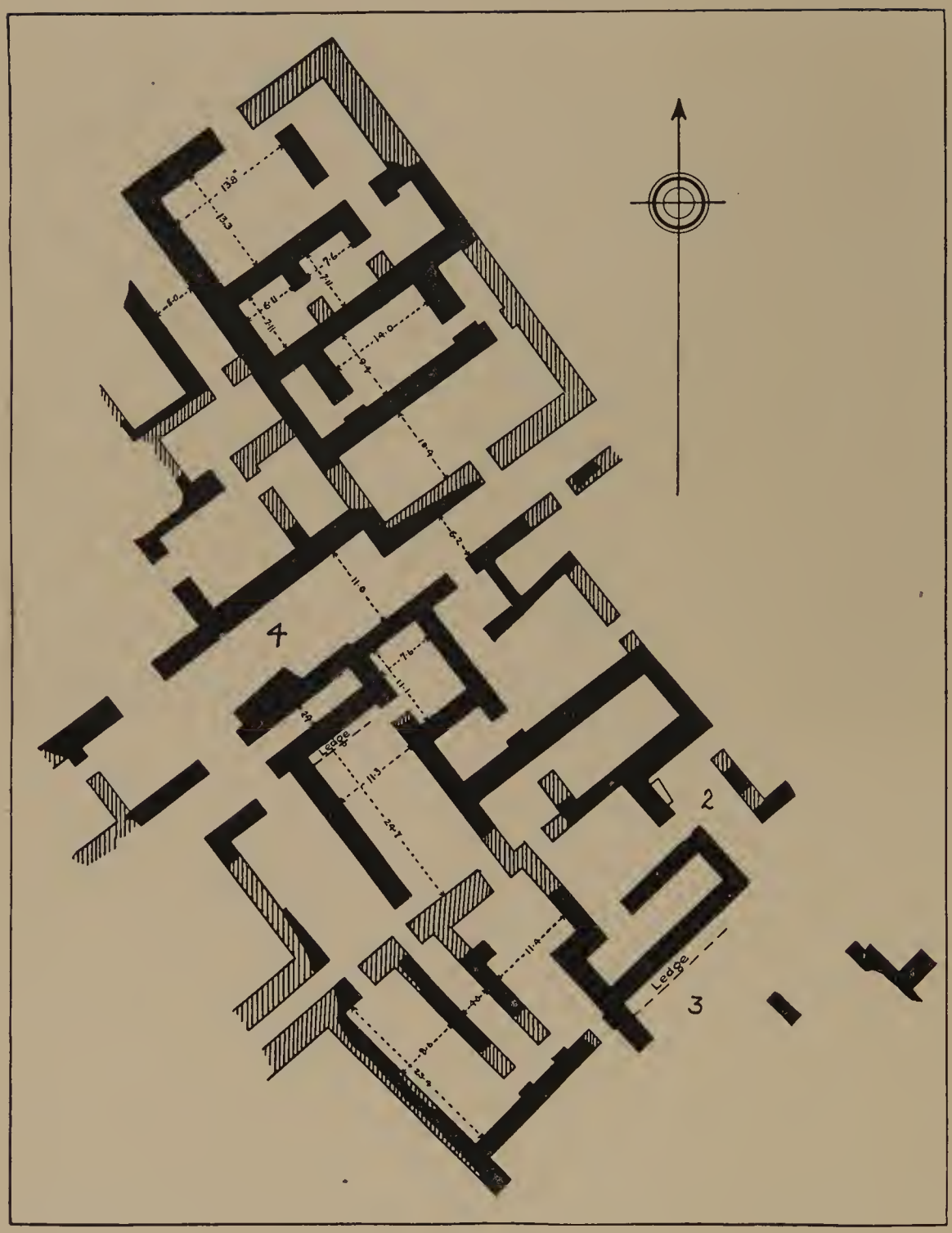
On the right a long paneled wall, pierced with 2 doors, marked the site of the temple proper, and south of it was a smaller building whose purposes

RUINS OF TEMPLE LIBRARY [FIG. 11]

are at present undetermined, owing to the small fragment remaining. Our data on this part of the Temple are scanty, owing on the one hand to the valuable pavements and walls which have been removed, and on the other to the enormous dump heaps which render it absolutely impossible at present to get at the walls beneath them. Our picture of the Temple must remain for the present incomplete as regards smaller details, but the general arrangement of the Ziggurrat, with its gates and walls are determined. [See plan on p. 111.]

## THE TEMPLE LIBRARY

The Temple Library was situated to the south of the outer Temple court and was separated from it by a branch of the Shatt-en-Nil. It does not seem to have been included in the Temple wall, but occupied an independent position. Only about $^1/_{12}$ of its entire area has been uncovered. I give a plan of the portion nearest the Temple [Fig. 10]. Owing to its extreme age it was very difficult to distinguish its ruined walls from the débris around and above them, and in many instances the unbaked brick and the débris from the roof and walls above had formed a homogeneous mass. The rooms are irregularly arranged, and from the small portion open seem to have been arranged in no definite system. To the north, however, there is a complete suite of rooms apparently separated from the library portion (*i.e.*, where the most tablets were found) by a corridor or street 4. In the rooms marked 1, 2 and 3 were narrow ledges on which were lying masses of tablets, as they had been thrown by the falling in of the roof and walls.




PORTION OF TEMPLE LIBRARY [FIG. 10*]

As there were any quantity of them piled together, it would seem that there had been several shelves or ledges one above the other, and that their contents had been precipitated onto the bottom shelf by the collapse of the building. In Fig. 11 the general appearance of the library is shown, after it had been excavated. At the right near the number of the photograph is seen the ledge which in the previous plan is numbered 3. The badly ruined condition of the place is also admirably shown.

DORIAN IN CITY WALL OF NARAM-SIN, 3,750 B.C. [FIG. 13]

## THE CITY WALL AND GATE

To the N.E. of the temple was the Abullu Rabu, or great gate of the city. Opposite page 54 [RECORDS OF THE PAST, Vol. II, 24] is a photograph of the existing fragments of this gate. Only one side is complete, but a portion of the foundation of the other side enables us to definitely ascertain its position. Its length was 35 feet, which would represent the thickness of the wall at this point, although no traces of the wall itself remain, the unbaked bricks of which it was composed being removed for a distance of 360 feet by the later builders of Nippur, most likely the Parthians. They required an immense amount of material for their huge fortress and made use of the old outlying city walls, for which they had no further need. The gate was in 3 parts. A central roadway 13 feet wide [1] with a raised passage or corridor for foot passengers [2] at each side. The central road sloped upwards either in a series of long slant steps or in one long slope. The whole structure was built of the curious loaf-shaped bricks with an impression of the maker's thumb on top, and which in the lower part were laid in bitumen. Under the central passage and extending even under a small part of the steps was a foundation of large blocks of stone also laid in bitumen. The rarity of this building material and the care with which it is laid shows us at once the importance attached to this entrance. At a later period, but still before the time of Sargon (for the same shape of brick is used, only larger), the level of the gate had to be raised, owing to the accumulation of débris. So another flight of steps [3] was built about halfway along the former passageway. It is at a distinct angle with the lower corridor, but apparently

built as a continuation of it. The location of the gate with respect to the wall is shown at 3, Fig. 12.

In the mounds to the north of this gate we excavated a considerable portion of the ancient city wall [Fig. 16], embracing mainly 2 of its periods, that of Naram-Sin, 3,750 B.C., and above it Ur-Gur, 3,000 B.C. It has been very wrongly stated as an argument against the date assigned to Naram-Sin that his work as well as his father's lie immediately superimposed on that of Ur-Gur. As a matter of fact they never have been found so. In the Temple area his pavement is 8 feet below the top of Ur-Gur's pavement; here again in the city wall we find his wall below Ur-Gur's, and evidently so old and worn that Ur-Gur evidently did not think it worth following, but used it in part as a foundation for his own wall, and removing it elsewhere have the same shape or follow the same direction.

Of Naram-Sin's wall [1,1] we have some hundred feet still traceable, together with one of the water conduits used to drain its surface [Fig. 13]. This was made of his splendidly baked bricks laid in bitumen. Heavy return angles were used to make the wall defensible and obtain an effective discharge of missiles upon the enemy. Quantities of the clay balls for slings and a few arrow heads were discovered along the base of the wall.

The wall was entirely rebuilt by Ur-Gur [2,2] who made it more ornamental than his predecessors by decorating its outer face with panels averaging 11 feet in width and placed 30 feet apart. In all we found 17 of them in the piece of wall uncovered and an additional one can be restored at a point where the wall was destroyed. The inner face was badly cut up and worn, and it was hard to determine the exact thickness of it. At one point, however, we managed to find it well enough preserved to obtain $25\frac{1}{2}$ feet as its thickness. Of Naram-Sin's wall we could find no inner face, it being so badly broken by age and the ruthlessness of successive monarchs.

A series of small rooms occupied the inner face of parts of the later wall, and many interesting objects came from them, of which we cannot give an account in this survey of architectural features.

It is difficult for those who have never seen the uncovering of an ancient city to understand how it happens that there are so many different strata one above the other. The question is often asked what is meant by there being 19 cities one above the other at Nippur and how such a thing is possible. A few simple diagrams will make the process clear. Let us first remember that Nippur is situated in the midst of a perfectly flat country, and although now there are the mounds indicating where the various cities were located, these are the result of man's building operations and not natural to the country.

When the country was thus level let us suppose people, for reasons which do not concern us, chose the spot where Nippur now lies for a dwelling-place [Fig. 14]. Their houses were built upon the ground or perhaps on a slight pavement of brick. War, pestilence or other causes drove them away for a time. All the walls in that primitive period being of mud laid up en masse, the lack of care would soon cause the walls to crumble under the effect of the weather. In a comparatively short time the roof would fall into the house and the upper parts of the walls would fall partly outside and partly inside the rooms burying any pottery or objects of the period which may have been left by the departing owner. Even with the house thus ruined it will be apparent that the débris of the crumbled walls would preserve against further damage the various objects as well as the pavement at

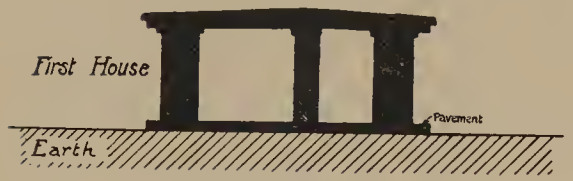



FIGURE 14

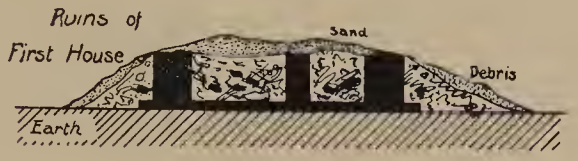



FIGURE 15

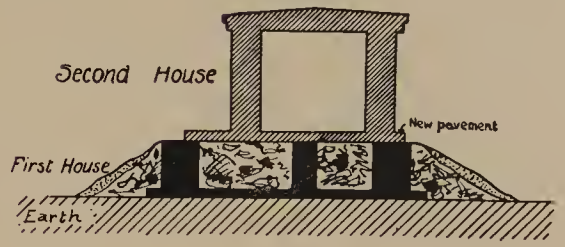
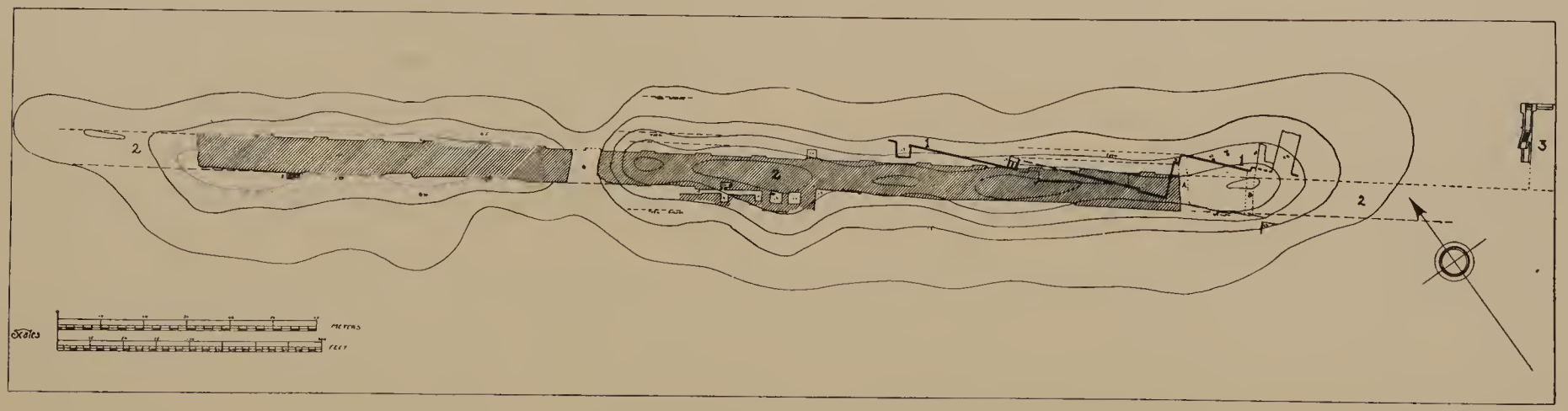



FIGURE 16

DIAGRAMS SHOWING SUPERPOSING OF BUILDINGS OF DIFFERENT PERIODS [SEE PP. 116, 117]




PART OF N.E. CITY WALL [FIG. 12*]

the bottom of the heap. Our primitive house will now present somewhat the appearance of Fig. 15. The wind and rain round off the edges and fill up the crevices until all semblance of a house is lost. Years may pass and again someone looking for a site to build upon lights upon this little mound. The plain is often swampy in the spring and the hill will raise him above its inconveniences. Besides it will make his home more defensible. So he levels off the top, lays a new pavement and proceeds with his house [Fig. 16]. Through the varying periods of time this will go on, after each rebuilding the mound rises higher and becomes more secure against a foe. The destruction of each house leaves a pavement with its accompanying pots and utensils, perhaps jewelry buried with it. In the case of large settlements like Nippur the work goes on even while the place is inhabited. The mud washed down from the walls, the refuse from the houses themselves, all accumulate in the streets and in odd corners. If it had been carried outside the city limits, it would in time have surrounded the place like a wall and made it worse than if the débris had remained. So they left it where it was.

In the Temple, the same is true. The courtyard gradually filled up and when a new monarch chose to restore the holy spot, he had perforce to lay his new walls and pavements upon the remains which he found. Often he would use the old material over again or use parts of walls for his newer ones, but in every case a slight difference would result between the level of his work and that of previous kings. In the later times the advantage of being elevated was so thoroughly recognized that in the erection of great palaces a huge artificial mound or platform was first made upon which the buildings were afterwards laid out.

The way in which the mound has been built up shows how necessary it is to excavate it by a system in which this process is reversed, removing the topmost layer with all the antiquities which determine its period, then taking the next, and so on. Once lay bare by perpendicular cuttings a series of strata such as we have at Nippur, with their periods overlapping and mixed up, and we find ourselves in the midst of a puzzle which can perhaps only be solved by finding similar strata in another portion of the mound.

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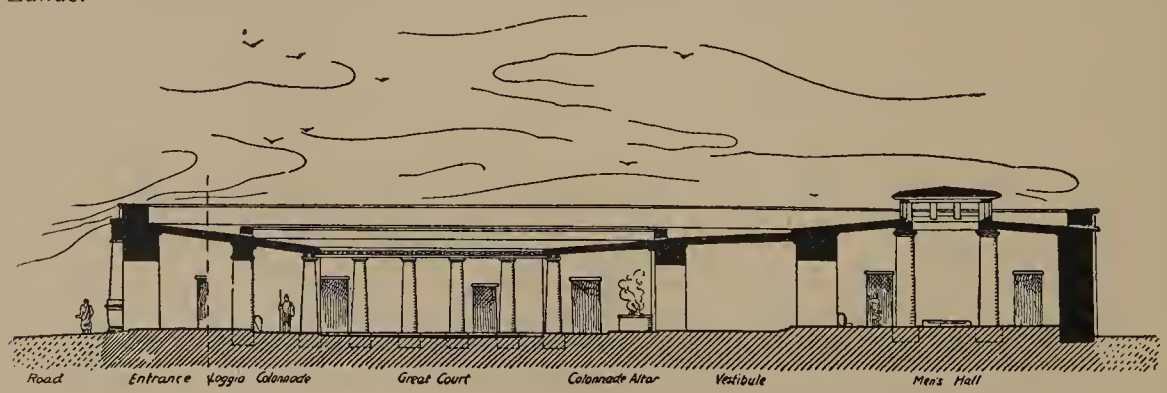
Editorial Note: The above article has been written at our request by Mr. Fisher, the Architect of the Babylonian Expedition, to give a general idea of some of the chief architectural features thus far revealed by the excavations at Nippur. The Babylonian Expedition of the University of Pennsylvania will shortly publish a volume dealing more fully with the subject. Illustrations marked with an * are taken from Hilprecht's *Explorations in Bible Lands.*




SECTION THROUGH THE SMALL PARTHIAN PALACE ON WEST SIDE OF THE CHEBAR, LOOKING N.E.

# THE AGE OF THE LANSING SKELETON

BY PROF. GEORGE FREDERICK WRIGHT, D.D., LL.D., F.G.S.A.

SINCE the publication of Mr. Warren Upham's paper upon *The Fossil Man of Lansing, Kansas* [see RECORDS OF THE PAST for September, 1902], a great amount of attention has been given to the subject by the leading anthropologists and geologists of the world. At the international meeting of Americanists at New York last autumn, the skull was presented, and became one of the principal objects of investigation and discussion by the distinguished savants there present. Among them there was a pretty general objection to assigning an extreme antiquity to the skull on account of its resemblance in shape and capacity to the skulls of some modern Indian tribes.

But the inconclusiveness of such considerations is evident upon a little reflection. The anthropologists have no facts upon which to base estimates concerning the rate at which changes may take place in the progressive development of a species. In the case of man, it is certain that the skulls from Egyptian tombs which are several thousand years old do not differ materially from those of the modern Fellahin; while, even upon Mr. Upham's calculation, the Lansing skeleton is not twice as old as some of these Egyptian skeletons. The inferences of the anthropologists are based upon a theory of evolution which is but imperfectly understood, and hence cannot be used to discredit facts established by positive testimony. We are therefore brought without prejudice to consider more carefully the geological evidence of the age of the deposit in which the skeleton was found.

Among the geologists who have visited the site since Mr. Upham's report are Profs. T. C. Chamberlin, R. D. Salisbury, Samuel Calvin and the Author. Profs. Chamberlin and Winchell have also each of them made a second visit to the locality to obtain supplementary information.

Professor Chamberlin's report, occupying 30 pages, appeared in the November number of the *American Journal of Geology*, and is approved by Professors Calvin and Salisbury. In his opinion the deposit is not strictly of glacial age, but belongs to a subsequent period, when the Mississippi River was flowing at a higher level than now, and redeposited a portion of the loess along its margin at that higher level, which, in his opinion, would give to the relic "a very respectable antiquity, but much short of the close of the glacial invasion."

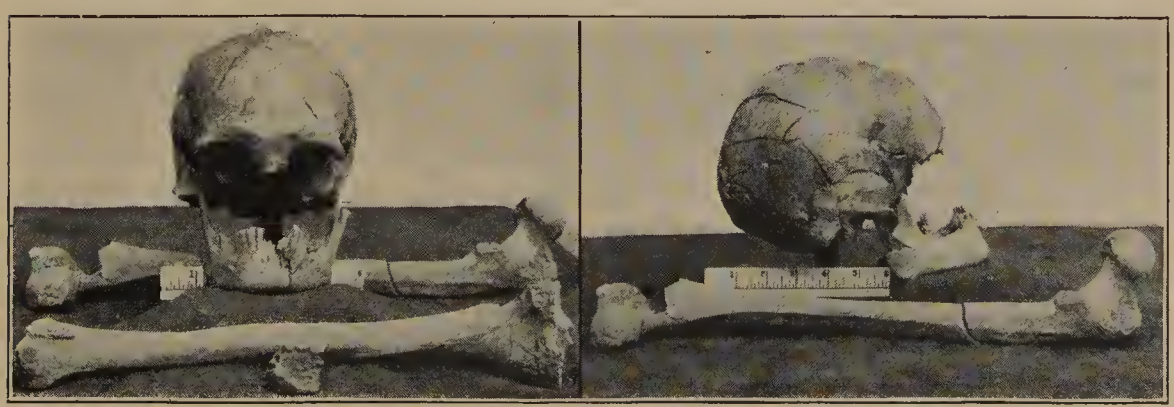
On the other hand, Professor Winchell, after paying a second visit to the locality with Professor Chamberlin's report in hand, made the age of the Lansing skeleton the subject of his presidential address to the Geological Society of America, at its meeting in Washington, on the first of January, 1903, in which he defended the soundness of Mr. Upham's interpretation, and supported it by what seemed to be most conclusive arguments and observations.

According to Professor Chamberlin's view, when the Iowan stage of the Glacial period, during which the main deposits of the loess took place,

PANORAMIC VIEW SHOWING MR. CONCANNON'S HOUSE AND THE RELATION OF THE BLUFF TO THE PRESENT FLOOD PLAIN OF THE MISSOURI RIVER. THE WINDING COURSE OF THE RIVER SEEN IN THE DISTANCE INDICATES THAT IT HAS CEASED LOWERING ITS BED. THE PHOTOGRAPH WAS MADE BY THE EDITOR OF "RECORDS OF THE PAST" FROM THE CORRESPONDING OPPOSITE BLUFF LOOKING ACROSS THE SIDE VALLEY TO THE CONCANNON HOUSE

VIEW SHOWING ENTRANCE TO TUNNEL IN WHICH THE SKELETON WAS FOUND

VIEW SHOWING ENTRANCE TO THE INTERSECTING TUNNEL EXCAVATED BY PROF. WILLIAM HENRY HOLMES, DIRECTOR OF THE BUREAU OF ETHNOLOGY



FRONT AND SIDE VIEWS OF THE SKULL AND FEMUR BONES

came to a close, the channel of the Missouri River, which is here 2 or 3 miles wide between the rocky bluffs, was filled up to an indefinite height, so that the river flowed at a level which was considerably above that which it occupies at the present time. When that level was from 15 to 25 feet higher than now, he supposes that a portion of the loess of the bordering upland was worked over and redeposited on the margin at the level of the Concannon farm, where the skeleton was found. His theory is that subsequently the river has been gradually lowering its bed across the whole channel 2 miles in width, until now the high-water mark falls 20 or 30 feet below that during which the portion in question was redeposited.

On the other hand, the theory of Mr. Upham represents with good reason that the channel of the Missouri at this point has not been undergoing a process of excavation since the Iowan period, but rather of filling. In his view it is not necessary to suppose that the main channel of the Missouri was filled with sediment, while the deposit of loess was going on near the margin or for an indefinite distance backward from the border of the valley. It seems more probable that the motion of water in the main channel would be sufficient all the time to carry forward the fine sediment which it held in suspension, but which would be readily deposited wherever, in times of flood, it overflowed the banks and formed lake-like expanses.

Furthermore, while during the Iowan period the glacial sediment was chiefly loess (which is readily held in suspension in slowly moving water, and so would not fill up the main channel of motion), the subsequent portions of the glacial period were characterized by a great amount of coarse sediment, occasioned probably by a rise of the land to the north, which increased the gradient of the stream. This coarse sediment still forms extensive terraces of gravel in the upper Missouri and its tributaries from the glacial region. But in the valley of the Sioux, 200 miles farther up, they are only 10 feet above the present flood-plain, though a mile or more in width. Corresponding terraces of coarse gravel appear in the Missouri below Sioux City, but gradually diminish in height until, before reaching the mouth of the Platte, they have disappeared below the present flood-plain. This indicates a period of later accumulation of sediment in the channel below the Platte, instead of continuous erosion, as Professor Chamberlin supposes. This view is furthermore corroborated by the fact that the rock bottom of the river at Omaha, and lower down, is about 70 feet below the present bottom. Thus one theory is made to counteract the other, and leave the mind in partial suspense.

Professor Winchell, however, in his presidential addresses, presented more specific facts which are not so easily answered. As described by Mr. Upham, the Lansing skeleton was "imbedded in the upper foot of a stony and earthy *débris* that appears to have fallen from a closely adjacent outcrop of carboniferous limestone." "Above this *débris*, which has an average thickness of about 2½ feet, the upper ⅔ of the tunnel consists of the loess, which also reaches up to the surface, 20 feet above where the skeleton lay." Professor Winchell's more accurate observations show that the lower 3 feet of *débris* beneath which the skeleton was enveloped is independent of the loess deposit above, and, therefore, of course, older. It consists of "residual" sediment which had accumulated previous to the era of the overlying loess, and which differs from that in being entirely free from any lime ingredients. It had been leached of its lime before the accumulation

of loess above it, which is throughout liberally charged with lime. Moreover, according to Professor Winchell, this lower stratum of *débris* with which the skeleton was enveloped, had been an exposed surface, which, when subjected to alternate periods of wetting and drying, had cracked open from the top in numerous places, and permitted the loess to go down in these cracks, where it still remains with its characteristic proportion of lime. This would seem to be an absolute demonstration that the skeleton was enveloped in its present covering during a period preceding that of the entire loess deposit, for certainly, even according to Professor Chamberlin's view, there would have been no opportunity for such a residual accumulation to have taken place in the interval between the time of the general loess deposit and that of his supposed redeposition at a later period.

In light of all these observations, the order of events in the Missouri Valley at Lansing may with reasonable confidence be stated about as follows:

1. In preglacial times there was, over the northern part of the United States, a general continental elevation of indefinite extent which cannot be well measured in the Missouri Valley. But during this period of elevation the main streams and their tributaries everywhere deepened their channels to a great extent. This is evident all over the region, and appears in the Missouri Valley in the fact already stated that the rock bottom of the Missouri River at Omaha is 70 feet below the present bottom of the river.

2. In connection with this continental elevation, and perhaps as an effect of it, glacial ice accumulated at the north and flowed southward as far as Kansas City, 20 miles or more beyond Lansing. This is called the Kansan epoch in the Glacial period. The earthy *débris* brought along by the ice-movement over this southern margin was, however, comparatively small in amount; so that when the ice melted off only a thin blanket of transported material was left upon the surface. But Northern boulders, especially those of Sioux Falls Quartzite, are found in considerable abundance scattered over all the highlands of the region.

3. The close of the Kansan epoch was marked by a subsidence of the land considerably below its present level, especially at the north, where it was of increasing extent. Omitting minor stages, the extreme depression of land to the north occurred when the ice front ran across the State of Iowa from east to west not far from the line connecting Omaha with Des Moines and Iowa City. This depression at the close of the Iowan period so diminished the gradient of the rivers flowing to the south, especially of the Missouri, that the current was checked, and became very sluggish, at the same time that the supply of water from the melting ice was enormous. It was, as I interpret it, in the rising stages of these floods that the Lansing skeleton, which was already enveloped in the residuary clay upon its rock shelf, was buried beneath the sediment, or loess, which accumulated with great rapidity all along the margin of the Missouri River. Owing to the sluggishness of this current and the immense supply of water, the Missouri Valley was filled up with water, so as to present a lake-like expanse covering the bluff on either side during a portion of each year, that is during July, August and September, when the melting of the Northern ice was going forward with greatest rapidity. But, meanwhile, during even these flood stages, a considerable current existed in the main channel of the valley, so as to keep it clear of sedimentary accumulations.

4. This Iowan stage of low gradient to the rivers, and so of excessive accumulation of both water and sediment, was followed by the Wisconsin epoch, which was one of increased elevation at the north. It was during this stage that the remarkable moraines were formed which cross Wisconsin, Minnesota and Dakota, and extend southward far into Iowa. At the same time the streams, with their increased gradient, brought down a great amount of coarse gravel and filled the channels, as we have seen, to a considerable height, which have been since partially re-excavated by the streams, leaving the gravel terraces on the sides of the streams, such as I have already referred to on the Sioux River. But the axis of this northern elevation of the later period was a considerable distance above Lansing; so that the process at Lansing since the Iowan period has not been one of excavation, but of continuous filling of the channel by the coarser material which is constantly being brought down from the elevated area of Wisconsin glaciation. But the high-water mark is still much below the Lansing horizon.

This gives a consistent explanation of all the facts, and enables me with reasonable confidence to affirm that the Lansing skeleton was buried before the close of the Iowan epoch of the Glacial period, which, on Mr. Upham's calculation, must be as much as 12,000 years ago.

But, while the glacial age of this skeleton may, therefore, be confidently accepted, it should be kept constantly in mind, for the relief of the anthropologist, that there is increasing evidence that the closing stages of the Glacial period in North America did not long precede that of the high stages of civilization brought to light by recent explorations in Babylonia. Hilprecht and others would carry that date back to 9,000 or 10,000 years, which would be within 3,000 years of the date assigned by Mr. Upham to the deposition of the Iowan loess.

# EDITORIAL NOTES

**GILGAMES, THE HERO OF THE FLOOD:** At a recent meeting of the Society of Biblical Archæology Dr. Pinches read a paper on *Gilgames and the Hero of the Flood: The New Version,* in which he described the fragment of a Babylonian tablet purchased by Dr. Meissner at Bagdad for the Museum of Antiquities at Berlin, and published by him in the *Mittheilungen der Vorderasiatischen Gesellschaft.* It gives a part of a different version of the story of Gilgames from that first translated by the late George Smith, and as it is inscribed in the style of about 2,000 B.C., when the legend had taken the form in which we now know it, the date may be regarded as fixed. The new text as preserved to us, consists of the lower part of the first and second columns, and the upper part of the third and fourth. The incidents to which it refers are a conversation between Gilgames and the Sun-god, who asks him why he wanders about; his answer to the goddess called Sabitu, in which he laments the loss of his friend Eadu (Ea-banî), and receives a somewhat unsatisfactory rejoinder; and finally his meeting with Sur-Sunabu, the boatman of the Babylonian Noah (here apparently called Uta-naistim). A short comparison of the version of Mr. George Smith with the present

text was then made, and the parallels pointed out, after which the forms of the names Gilgames, Ea-du, Sur-Sunabu, and Uta-naistim for Ut-naistim were briefly discussed. Dr. Meissner has rendered a service to Assyriology in publishing this important variant of the legend of Gilgames.

**ROCK CARVINGS FROM LADAKHI:** Rev. A. H. Francke in an article in the *Indian Antiquary* pictures a large number of rock-carvings collected by himself in the Western districts of the ancient Ladakhi Kingdom. As regards the age of these carvings he says, "It is difficult to say anything definite at the present time. Some of them may have been executed only recently; for the art of carving on the rock is still practiced, as can be seen from various carved Buddhist formulæ and emblems, the artists of which are often well-known people. But what makes for the very ancient character of the art as a whole and of certain carvings in particular, is the frequent occurrence of representations of stupas, entirely different in form from those existing at the present day. The state of the carvings does not in the least enable us to fix their respective ages, as they are all in wonderfully good preservation. Along the banks of the Indus are many boulders of highly polished granite. These are all overlaid by a thin glazed encrustation of a dark brown color, which protects the rock against the influence of the air. It is by removing this that the inscribed carvings are produced, and all that time could do would be to deepen the lines of some of them."

SPECIMENS OF ROCK CARVINGS FROM LADAKHI

A few of these sketches we reproduce. That of the lion with the curled mane is probably the white lioness with turquoise locks which is the personification of the glacier. All the animals represented in these drawings are very rude, but have an element of attractiveness about them, for none of them are stiff with the exception of a few purely conventional forms. Mr. Francke thinks that the carving of the lioness "Goes back apparently to a model spread all over the East and Far East, possibly as a degeneration of the lofty and very ancient art of Assyria."

The swastika cross in the accompanying drawing is very interesting as it is exactly the reverse of the original swastika cross so common in ancient art all over the world. The usual form showing a turn of the arms of the right, while these turn to the left. The one with semi-circular arms being apparently a modification of the one with right-angled arms.

**EXCAVATIONS IN ROME:** Signor Boni, director of the Government's excavations in Rome, has written a most interesting article for *Harper's Magazine* for March [1903] on the recent excavations in the Roman Forum which is of special value in that it has thrown much light on the inner nature of the ancient Romans. One of the most interesting discoveries is that of the "concrete base of the altar in the front hemicycle Heroon." This Heroon was an edifice built by Augustus on the spot where the body of Cæsar was cremated. That the Heroon is the correct site is shown by the inscription found on the lintel—*Divo Julio.*

He also found that the Vulcanal Rock, the work of the primitive Latin folk and possibly the oldest monument of the Aryan world, which "still stands as it was hewn with axes and covered with red rust plaster," was used as a foundation for the new Rostra of Cæsar's time. On this Rostra were nailed "the head and hands of Cicero as symbols of vendetta achieved." This is the only trace of Julius Cæsar's own work which has yet been found on the surface of the Roman Forum.

Beneath the center of the Forum were found traces of apparatus for "stage-carpentry and scene-shifting in the gladiatorial games," given by Cæsar for the benefit of the populace before the amphitheater was constructed. There were also discovered a number of ritual pits belonging to this same period. The "Cæsarean" pits are oriented differently from the Republican pits of an earlier age. Those of Cæsar are shifted 30° toward the South from the original axis of the Forum which corresponds with the shifting of the Forum axis made by Cæsar.

In these ritual pits were found ashes of oak which was the "sacred tree of the Aryans." It seems that these ashes "were deemed to contain strength for the nutrition of other oaks which, in an unbroken cycle transformation, would in their turn nourish the Sacred Fire" of Vesta.

Among the ashes of a sacred oven which was abandoned about 400 A.D., when the last vestal was driven out by Serena, was found a *liba* of charred paste representing a raft that was sacrificed to Janus. In this house of the vestals were identified the "*penetralia* or Holy of Holies," where were guarded the "documents of *Fides Publica*, the supreme testamentary institutions and the dispositions for divine arbitration by ordeal of fire and water."

The Springs of Juturina were found choked up with fragments of marble Greek statuary dating about the V Century B.C., "representing Castor and Pollux with their horses standing to guard the two Springs, one on the East, the other on the West." The desecration of this group of statuary is probably the work of later Christians.

Near these springs was a shrine of later date and yet of considerable interest—"the Basilica Palatina, containing the early Christian church, known as Santa Maria Antiqua." This consists of a hall 32 m. long, at one time vaulted, and "*atrium*, and an *impluvium* with 3 compartments which were converted into a Christian church about the beginning of the VI Century." On one of these walls were found traces of 4 paintings

superposed on one another and dates from the earlier part of the Middle Ages. This church remained in use until the IX Century, when it was abandoned and the church of Santa Maria Nova was built on the site of the Temple of Venus near the upper Sacred Way.

Signor Boni has now begun the excavation of one of the walls of the Temple of Jupiter Sator which is supposed to have been built by Romulus in fulfillment of a vow to Jupiter made when he besought the god to enable him to hold his ground against the Sabines.

Signor Boni thinks that it will be possible in time to restore the entrance to the Palatine, so that "visitors descending from its height into the Forum may pass from the monuments of the earliest centuries of Roman life" to the frescos adorning the walls of the mediæval Christian church of Santa Maria Antiqua.

Professor Lanciani in the *Athenæum* mentions the following interesting finds:—

Among the Roman historical inscriptions which have been broken, mutilated, dispersed all over the city, none has met with a more remarkable fate than one describing the life and exploits of Avilius Teres, the celebrated jockey of the time of Domitian, It was first removed from its original site by an unknown patrician at the end of the III Century, whose epitaph was engraved on the back of the slab. Secondly, a Christian named Aurelius Romanus made use of it for his own grave and that of his sisters. When the church of Santa Maria Transpontina was first built in the VIII Century, near the Castle of St. Angelo, part of the slab was made use of in laying the marble pavement. The church was demolished in July, 1564, by Pius IV, to make room for the new fortifications of the castle, and when Pope Urban VIII built in 1627 the pentagonal bastions, two fragments of the inscription came to light, one of which was lost, the other being removed to Florence, where it is still to be seen in the Galleria degli Uffizi. In the course of a general restoration of the castle with a view of transforming it into a museum of Artillery, many other fragments were found a few weeks ago, of which Urban VIII had evidently made use in his own structures. Putting together all these pieces we have about ½ of the whole text, which was divided into 3 sections. The first contained the summary of the exploits of the valiant rider, the number of races won, and his gains of honors and money. The second gives the names of the horses which were led by him to victory, the majority of which are Africans, one Gaulish, one Arab, one Spanish, and two Laconian. The last section describes all the innovations brought out by Avilius Teres in racing, in harnessing the horses to the chariot (for instance, *interpositis equis paribus*), or in driving the chariot itself (for instance, *intra funes preimum vicit*); also the names of the celebrated riders defeated by him, such as Claudius Olympus, of the faction of the 'greens,' Communis and Epaphroditus, whose colors are not specified. The last two must have been of remarkable prowess, because even Diocles himself, the prince of the Roman jockeys, boasts of having defeated them in more than one match. The inscription, however, omits one essential fact—that Teres was defeated in his turn by Diocles after he had come out the winner in 1,011 matches.

The finding of so many records of this class of people in the district of the Vatican shows that they had selected the burial-fields of the Via Cornelia or of the Via Triumphlis for the erection of their showy Memorials. This partiality for the Campus Vaticanus may have originated from the fact that here Volucris, the wonderful racer from the stables of the greens, and a great favorite with the Emperor Lucius Verus, had received honors of bronze statue and a showy tomb.

In a cutting made across the Piazza Colonna to improve the level system of drains the pavement of the Via Flaminia has been discovered, at a depth of 21 feet under the level of the Corso, as well as the pavement of the square surrounding

the Column of Marcus Aurelius. The lead water-pipe was found under the paving-stones at the corner of the Chigi Palace, upon which the following legend is engraved: 'This pipe has been laid under the care of Phœbianus, commander of the first division of policemen and firemen' (*'sub cura Phœbiani tribuni cohortis primæ vigilum'*). The legend has been interpreted in the last number of the *Bullettino Archeologico Cumunale,* p. 193, in this sense: that Commander Phœbianus had obtained a grant of water for the supply of the barracks in which his men were quartered—the Scotland Yard of ancient Rome—which covered in Imperial times the space now occupied by the convent of San Marcello and by the Plazzo Muti-Savorelli. The interpretation cannot be accepted, because the distance between the spot where the pipe has come to light and the site of the barracks is too great, and because if the *vigiles* of the first division were in need of water they would certainly have obtained it from the aqueduct of the Aqua Virgo, which runs close to the barracks. My own explanation is that the city of Rome was furnished with hydrants for the use of the fire brigade, in which case the care of laying the network of pipes would naturally have fallen to the share either of the commander-in-chief (*praefectus vigilum*) or commander of each of the 7 police districts. This supposition is strengthened by the fact that another pipe, marked with the words 'laid under the care of Tiberius Claudius Juventinus, captain of the first cohort *vigilum,*' was found at the same time at the east end of the City. It belongs evidently to the same general system devised by the authorities to lessen the danger of fire.

**ANCIENT TOWNS ON THE SHORES OF LOB-NOR:** A faint idea of the important ancient history of the western part of the Desert of Gobi and Central Asia is obtained from the preliminary report which Dr. Sven Hedin recently presented in a paper before the Royal Geographical Society of England. On the shores of the Lob-nor he found the ruins of several towns which are now in an absolutely uninhabitable section. These show that there have been great climatic changes in this part of the country, through which at one time a great caravan route crossed the Desert of Gobi passing along the north shore of Lob-nor. This route is marked by the remains of numerous brick signal or watch towers, one of which still measures 29½ feet in height. In the houses were found wood carvings, Chinese coins bearing dates from 118 B.C. to 581 A.D., axes, sacrificial cups and carvings. Among the latter was one scene showing a "tiger, yak and antelope hunt," in which the hunters were using crossbows. In another village of 19 houses he found a lamp, Chinese money, the wheel of a Turkestan cart and some pottery. This village contained a Buddhist shrine in which was an image of Buddha and also a small piece of wood covered with native hieroglyphics which have not as yet been deciphered. This shrine looks out to the South across the reed beds of Lob-nor, but is protected on the North by poplar woods which have been desiccating for centuries until they are as brittle as glass. The most important discovery, however, was a pile of papers and letters found in one of the houses beneath 2 feet of sand. These were covered, on both sides, with Chinese characters, part of which have been deciphered by Mr. Himly, who places their age at between the middle of the III and the beginning of the IV Century A.D. These manuscripts show that there was a large and prosperous community on the shores of Lob-nor, one document referring to a war in which the local commander had 40 officials under him. Most of the manuscripts, however, deal with the agricultural transactions of an important merchant. There is a record of a "grain bank" where grain was bought, stored or received as security for loans.

# RECORDS OF THE PAST

VOLUME II MAY, 1903 PART V

Volume II

# RECORDS OF THE PAST

Part V

REV. HENRY MASON BAUM, D. C. L.
Editor

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MR. FREDERICK BENNETT WRIGHT
Assistant Editor

MAY, 1903

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Mr. Charles B. Kelly, of Mancos, Colorado, is thoroughly acquainted with Southern Colorado, Utah and Northern New Mexico and Arizona, and can be relied upon for information and the outfitting of parties in every detail for either short or extended expeditions. When the tourist reaches Chin Lee, at the entrance to the great Canyons de Chelly and del Muerto, filled with prehistoric ruins and entrancing with the most magnificent scenery in the Southwest, he will find Mr. Samuel E. Day, the Indian trader and his sons, most charming hosts and thoroughly acquainted with that region and ready to extend every courtesy possible.—EDITOR RECORDS OF THE PAST.

TOMBS AT AMASIA [FIG. 19]

# RECORDS OF THE PAST

VOL. II PART V

MAY, 1903

## THE HITTITE RUINS OF HILAR, ASIA MINOR

BY ELLSWORTH HUNTINGTON

IN the summer of 1899, while I was traveling in Eastern Turkey, I was told by natives that at Hilar, near Arghani between the Euphrates River and the head waters of the Tigris, they had seen some carvings on a rock. These were supposed to represent a king facing a priest, while all around them were letters of a kind which no one could read. As no inscriptions or bas-reliefs have been described from this region, such a clew was worth following up. At the time, however, it was impossible to visit the place, although it lay but a few hours distant. Two years later I was able to make a short visit to the ruins of Hilar and to get photographs and drawings of the chief carvings and a copy of the inscription, which proved to be Syriac and of much later date than the sculptures. The most noteworthy features seemed to be, first: the location of Hilar on the great trunk road from Mesopotamia to Eastern Asia Minor, and second: the union of Khaldi, or Haldi, and Hittite characteristics in the sculpture of the rocks. As I had lately visited some 8 or 10 Khaldi castles and 4 or 5 Hittite ruins, the combination of the two styles at Hilar may have impressed me more forcibly than the facts warrant.

Hilar lies directly between Harput and Diarbekir [Fig. 1], 45 miles southeast of the former and 30 miles northwest of the latter. The present wagon road between the two cities passes some distance east of the ruins, and goes close below the mountain on which lie the town and ruined castle

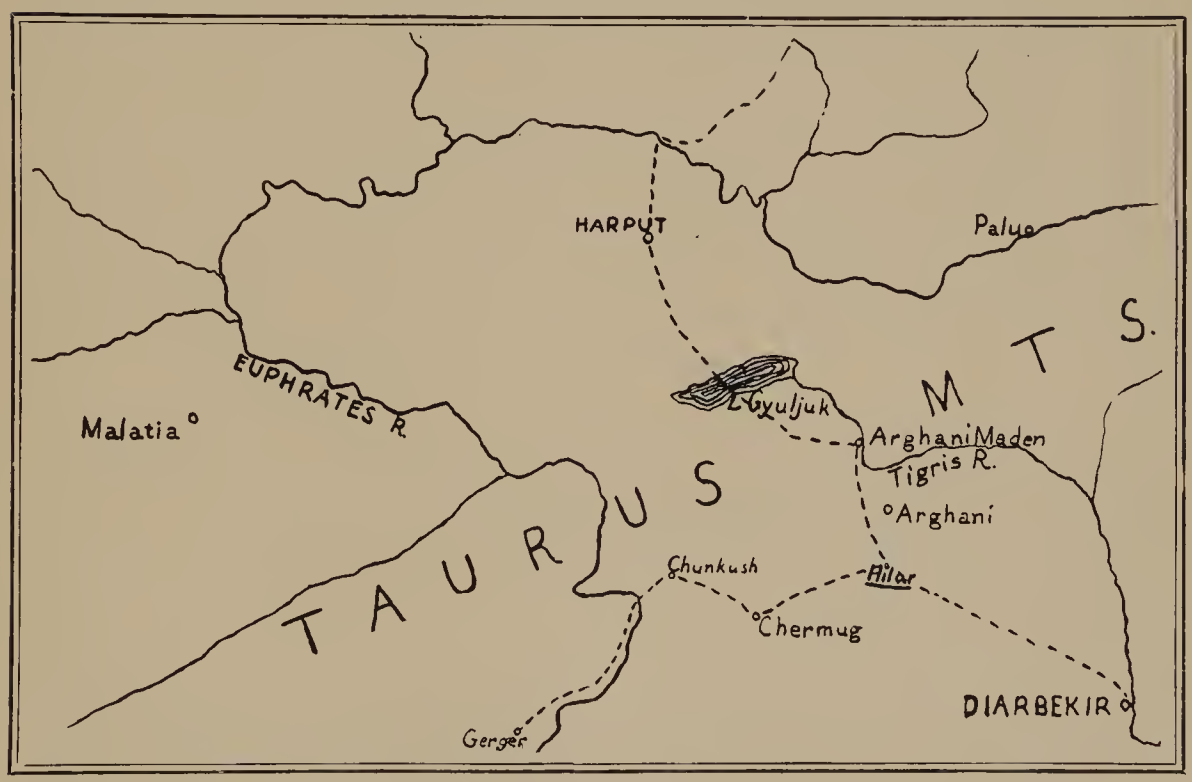
of Arghani, 7 miles north of Hilar. It then enters the gorge of the Tigris which it follows to Lake Gyuljuk. This part of the road is one of the best pieces of engineering in Turkey. Before it was built the road from Diarbekir to Harput passed close to Hilar and northward across the Taurus Mountains over the easiest pass between the Mediterranean Sea and the Persian border. In Roman times, when the road ran over the plain of Gyuljuk which has now become a lake,[1] it was even easier than now. This low place in the mountain wall between Mesopotamia on the one hand, and Armenia and Eastern Asia Minor on the other, has probably played a larger part in history than has generally been supposed. It was here that the civilization of the early Babylonians seems to have crossed the mountains in the days of the prehistoric Mound builders.[2] Here, probably, Tiglath-Pileser led his army up from the great plains to lay waste the cities of his northern neighbors. Here, too, in Roman times a great road, of which traces still remain, seems to have come down from Harput and the mountain plains of the north across what is now the site of Lake Gyuljuk and over the lowest pass of Taurus to the rich copper mines of Arghani Maden. A few miles farther south at Hilar it divided, one part going west via Chermug and Chunkush to Gerger, Samosata and Syria, and the other going south to Diarbekir and Mesopotamia. And here in modern times the great trunk wagon road leads from the Black Sea to the Persian Gulf. When at last railroads are built in Eastern Turkey, one of the main lines must follow the example of the great roads of antiquity and cross the Taurus by the passes north of Hilar.

As one descends southward from the Taurus Mountains toward the edge of the broad plains which stretch southeastward for 1,000 miles between the Tigris and Euphrates Rivers, he crosses a series of parallel ridges running east and west. These grow lower and lower, until at last they are merely lines of barren limestone hills, or even isolated masses of naked rock just lifting their heads above the ever-rising level of the alluvial plain formed from the waste of the mountains. On the last of these outliers of the Taurus lies the squalid little village of Hilar, a cluster of flat-roofed mud houses, inhabited by a few ragged Turks. North of the village, 2 or 3 miles of level plain, brown and sere in August, but beautifully green in spring, stretch to the foot of a low limestone ridge, whence comes most of the water that irrigates these plains in summer. Just to the south of the village rise craggy masses of limestone, full of natural caves and recesses [Figs. 2 and 3], while several contain artificial chambers or cisterns and have been carved externally into steps and platforms. At present these rough knobs have an elevation of only 20 to 50 feet above the surrounding alluvial deposits, but it is probable that the latter have gained considerably in thickness since the ancient rock cutters completed their work. For not only do the neighboring streams show evidence of building up their flood plains, as is so often the case in such piedmont regions, but the mouths of many of the artificial caves are half buried. Moreover, all the other ruins of similar character which the writer has seen are located on eminences which were difficult of access even without artificial barriers, and it is to be expected that the same was true here.

[1] See my article in the *Geographical Journal*, London, Vol. xx, 1902, pp. 176–178.

[2] See my article in RECORDS OF THE PAST, Vol. i, p. 170.

SKETCH MAP OF ASIA MINOR SHOWING LOCATION OF THE SMALL MAP B [FIG. 1, A]




SKETCH MAP OF THE REGION AROUND HILAR SHOWING THE 3 MAIN ROMAN ROADS [FIG 1, B]

Referring to the rough plan of the ruins of Hilar [Fig. 4] it will be seen that east of the modern village is a line of rock-hewn chambers which are cut at the base of a precipitous ledge, and which vary in size from 80 to only 7 feet square. The largest of these [No. 2 in the plan] has an ample square doorway reaching almost to the top of the cave, the present height of which is about 7 feet. The bottom of the cave, however, is covered with a thick layer of dirt so that the 4 rows of massive pillars which have been carved

out of the living rock to support the roof may have a height of 8 or 10 feet. The present inhabitants of the cave are the sheep and goats of the villagers and a great multitude of bats.

Quite different from this are the smaller caves most of which are of the same general style. Close to the ground or even buried almost out of sight is a small doorway about 2 feet wide and 2½ feet high. In most cases it has the flange, sockets and inner latch hole for a regular door, although in one case there is, outside the doorway, a groove in which a stone could be rolled against the opening. Over the doorway is an arch, a more or less perfect semicircular groove. The sides are flanked by panels, oblong or arched, and usually containing simple conventional drawings, often much defaced. [Figs. 9, 10, 11, 12.] On entering a chamber one finds himself in a room 6 feet high and 7 feet square. Behind him is the door. In front and on each side about 2 feet above the floor are horizontal niches, 6 feet long, 1½ or 2 feet wide and 3 or more feet high. The top is semicircular and the back slopes forward to meet it. It is supposed that these caves were built as sepulchers. Similar caves, although of ruder workmanship, are found in Khaldi ruins to the northeast, and well-made caves of exactly the same style are found in Hittite ruins, as for example at Gerger, 50 miles to the southwest.

The central portion of the ruins of Hilar consists of a massive limestone knob [Fig. 11], carved into steps and platforms of a type which has been called "Hittite," although it is better developed in the Khaldi country to the north and east [Fig. 12]. If this knob stood by itself without the neighboring tombs and carvings it might be called a characteristic specimen of Khaldi workmanship. Not only do the steps suggest this, but so do the rock-hewn tunnel and well, the carefully protected doorway, the trough leading from one of the platforms and the pear-shaped cisterns scattered here and there and usually arranged in twos. All these features are almost invariably found in Khaldi castles, while they are only sometimes found in those of the Hittites.

Further details concerning all the features of the ruins are given in the following description of the plan of Hilar [Fig. 4]:

No. 1, Large burial chamber with 7 niches arranged as shown in the accompanying sketch [Fig. 5].

No. 2, Large chamber, 80 feet square and 7 or more feet high. The roof is supported by 4 rows of pillars hewn from the living rock. At the southeastern corner there opens out of the large cave a small burial chamber with 3 niches [Fig. 6].

No. 3, Chamber, 20 feet square with a small burial chamber opening out of it.

No. 4, Two burial chambers the mouths of which are now almost entirely concealed.

No. 5, Rock platform which appears to have been the floor of an edifice of which two sides were solid rock. At the top of these sides are sockets as though for horizontal beams to support the roof.

Nos. 6 and 7, Two typical burial chambers like those adjoining the large chambers, Nos. 2 and 3. Figure 6 shows the ground plan of one of these.

No. 8, Burial cave with 6 niches arranged like those of No. 6, except that there are two tiers instead of one. Above the mouth of this chamber are some ancient carvings, which will be described below [Figs. 13-16], and

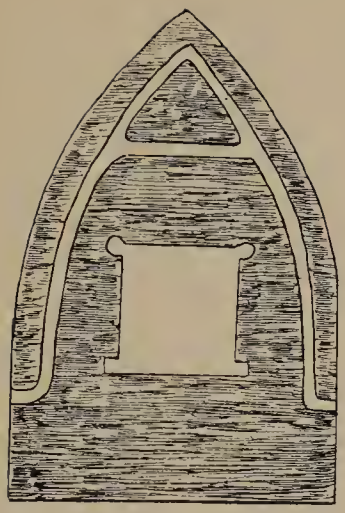


FIGURE 7

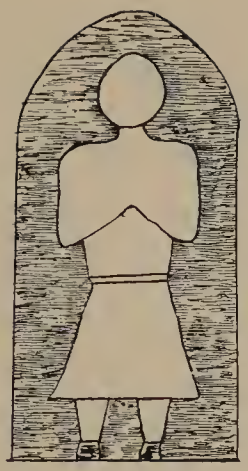


FIGURE 8

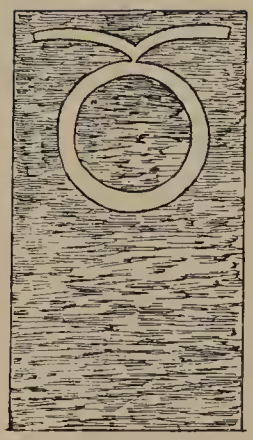


FIGURE 9

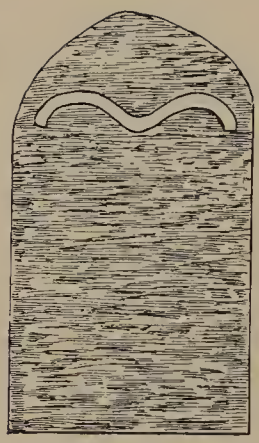


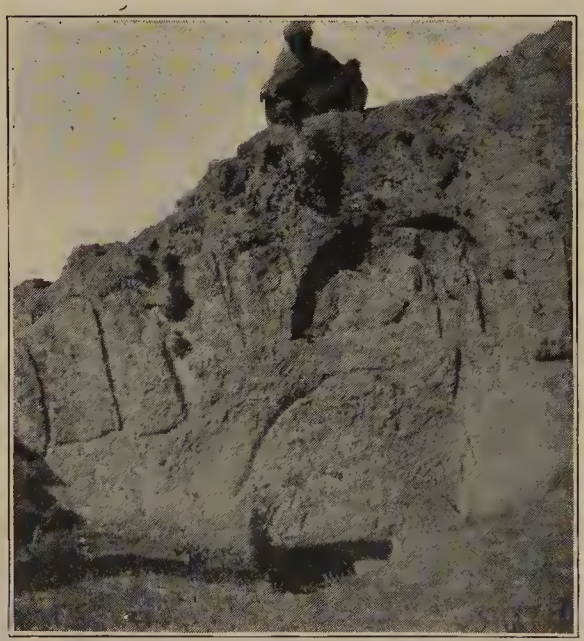
FIGURE 10

PANELS AT HILAR. DESIGNS LIKE FIGS. 7, 9 AND 10 ARE COMMON, BUT ONLY ONE SPECIMEN OF FIG. 8 WAS FOUND

KHALDI STEPS IN THE CASTLE AT HARPUT [FIG. 12]. *Photographed by P. T. B. Ward*

HITTITE FIGURE AT GERGER [FIG. 18]

MAIN RUINS OF HILAR, THE CITADEL LOOKING WEST [FIG. 11]



THE SOUTHEASTERN CAVE AND CARVINGS AT HARPUT [FIG. 14]

LIMESTONE KNOBS AT HILAR [FIG. 2]

LIMESTONE KNOBS AT HILAR [FIG. 3]

a relatively modern Syriac inscription. Beside it are numerous panels [Figs. 7, 9 and 10].

No. 9, A series of so-called Hittite steps, which, however, are more characteristic of Khaldi than of Hittite ruins. [Cf. Figs. 11 and 12.]

No. 10, Flattened rock with more steps and platforms [Fig. 11].

No. 11, Tunneled stairway descending to a well hewn in the solid rock.

No. 12, Little trough leading from a platform of No. 10 to the top of a ledge. The use of this is not certain. Perhaps the platform was a place of sacrifice and the trough was used to drain off the blood.

No. 13, Large cistern.

No. 14, Rock gateway.

No. 15, Two pear-shaped cisterns.

No. 16, Steps and platforms.

No. 17, Two pear-shaped cisterns.

No. 18, Steps and platforms.

No. 19, Three pear-shaped cisterns.

No. 20, Burial chamber of the typical shape with 3 niches. In the middle of the floor, however, is a little roundly conical depression 1 foot deep and 1 foot in diameter at the top. From this runs a little trough to another and much larger depression directly under the niche which lies on the right as one enters the cave. This depression is 18 inches deep, and is as large as the overlying shelf on which a dead body was supposedly laid. In two corners of the cave are little rock-cut shelves as though for candles or offerings of some sort. From the mouth of the chamber a trough leads out and down over a horizontal distance of 40 feet. At first it is cut deeply and has a step on each side, but farther out it is smaller and simpler. Near this cave are many panels.

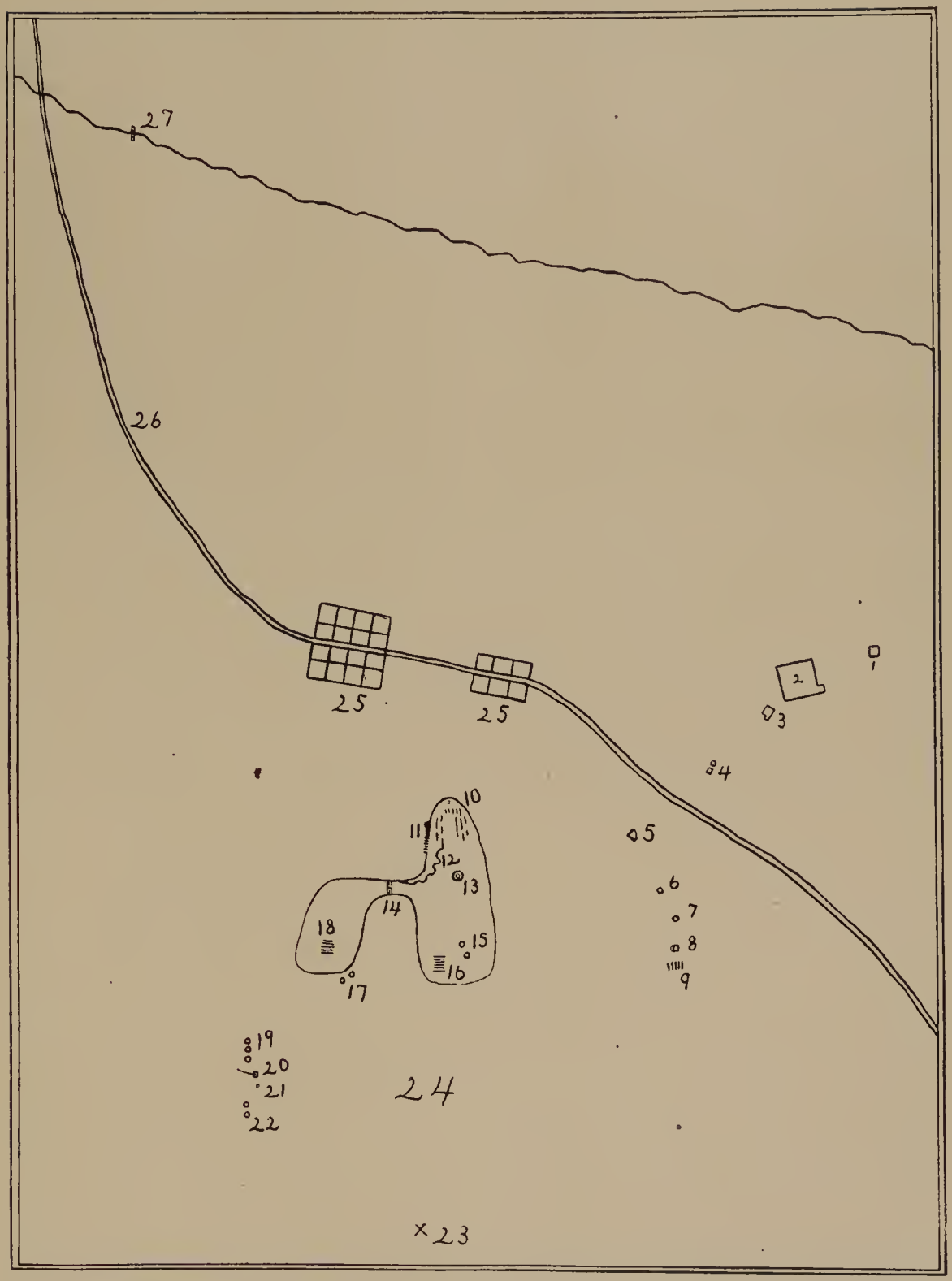
No. 21, Panel with bas-relief of a man [Fig. 8].

No. 22, Two pear-shaped cisterns.

No. 23, Ruined church.

No. 24, Ruins of a village.

No. 25, Modern village of Hilar.

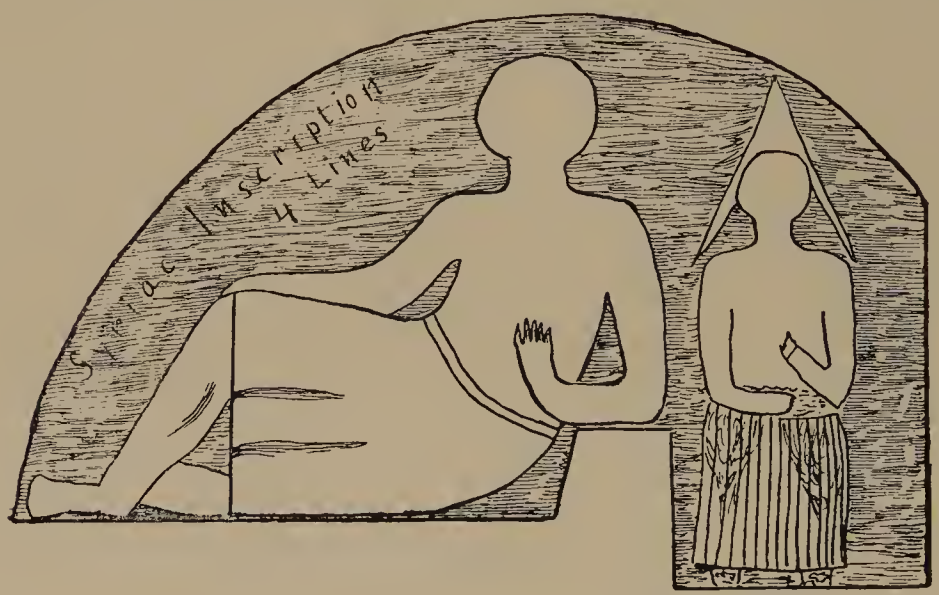



ROUGH PLAN OF THE RUINS OF HILAR [FIG. 4]

PLAN OF A LARGE BURIAL CAVE AT HILAR [FIG. 5]

PLAN OF A SMALL BURIAL CAVE AT HILAR [FIG. 6]

SKETCH OF THE SOUTHEASTERN CAVE AND CARVINGS AT HILAR [FIG. 13]




NEARER VIEW OF THE SCULPTURES IN FIG. 13 [FIG. 15]

No. 26, Road.

No. 27, Old [Roman] bridge with 5 arches.

In the panels and carvings adjacent to the sepulchral chambers we find evidence of the Hittite origin of Hilar. The art displayed in these is very crude, but, nevertheless, it seems to bear a likeness to the more elaborate work of Cappadocia and Western Asia Minor. For instance, the pointed cap, the earlaps and the plaited tunic of the seated figure above the southeastern cave [Fig. 15] and the upturned toes of the shoes of the reclining figure are distinctly Hittite. So, too, is the standing figure in the panel of Figure 8; and the rectangular ark of Figure 7, the winged circle of Figure 9 and the detached wings of Figure 10 are all found in Hittite carvings at other places. It seems as though Hilar might represent an early stage of the civilization which reached its climax at such places as Eyuk and Boghaz Keui, the northern centers of a later time. At the latter place the elaborate series of figures which approach each other in two processions from opposite sides [Fig. 17] seem to serve the same purpose as the panels on the two sides of the cave at Hilar. At Boghaz Keui there is no cave, but

PROCESSION OF HITTITE FIGURES AT BOGHAZ KEUI [FIG. 17]. *Photographed by Dr. Thos. S. Carrington*

the inner recess is almost completely covered and under the carvings are two niches of the same size and style as those in the chambers at Hilar. Apparently in later times more attention was given to decorating the approach to the sepulcher and less to the tomb itself.

Attention has already been called to Gerger, a southern Hittite locality where not only the sepulchral caves, but also other larger chambers, the tunneled stairway and well and the rock-cut steps recall Hilar. There, however, art was more highly developed and suggests Assyrian influence [Fig. 18]. Another locality, Amasia, near the Black Sea, may be connected with Hilar in a different way, although there is no proof whatever that the two places are related. The tombs of the Pontic kings at Amasia consist of large caves [see Frontispiece, Fig. 19] with small doorways set in the middle of a recess which is framed by a great overarching groove. This groove reaches back a distance of several feet and in some cases the top and sides and even the back of the cave are completely separated from the surrounding rock. Some neighboring features, such as several simpler and therefore probably older tombs, rock cuttings or steps in the castle and a deeply tunneled well, closely resemble similar structures in Hittite and Khaldi castles farther south. It would be interesting to investigate whether a rude groove such as that over the caves at Hilar [Fig. 14] has developed into anything so elaborate as the great arch at Amasia.

The location of Hilar close to the angle where 3 great empires of antiquity met adds much to the importance of the place. To the southeast lived the well-known Assyrians, the most formidable Asiatic power, 1,000 years before the beginning of our era. To the north and west were the Hittites, whose empire extended from Western Asia Minor to the Euphrates River. For a time this, to us alien race of neither Semites nor Indo-Europeans, possessed an empire which rivaled those of Assyria and Egypt. East of the Euphrates dwelt another people, the Khaldis, whose country embraced the great plateau region which extends from Mesopotamia to transcaucasian Russia and Persia. They, too, seem to have been neither Semites nor Indo-Europeans. Their empire reached the zenith of its power in the VIII Century B.C., when the Hittite empire was already beginning to wane. At that time they were Assyria's most dangerous enemies. The great Tiglath-Pileser II, as he himself has recorded, ravaged their country at the head of a large Assyrian army, but could not subdue it.

A city situated at the angle where the domain of 3 great empires met must have been of strategic importance. It not only controlled the great trunk road leading northward into the pleateau country, but its possessors were in a position to seriously menace the inhabitants of the plains to the southward. From it led 3 chief roads, one southeast to the land of the Assyrians, one west to the land of the Hittites and one north to that of the Khaldis. Such a city must surely have been strongly fortified. We may well believe that it suffered the usual fate of border cities and changed masters many times. Excavations in the alluvium surrounding the old fortress may some day enable us to gauge the influence of this border town in helping to shape the destiny of 3 of the great empires of antiquity.

## ROCK SCULPTURE "IN THE WESTLAND"

BY MRS. GHOSU-EL HOWIE

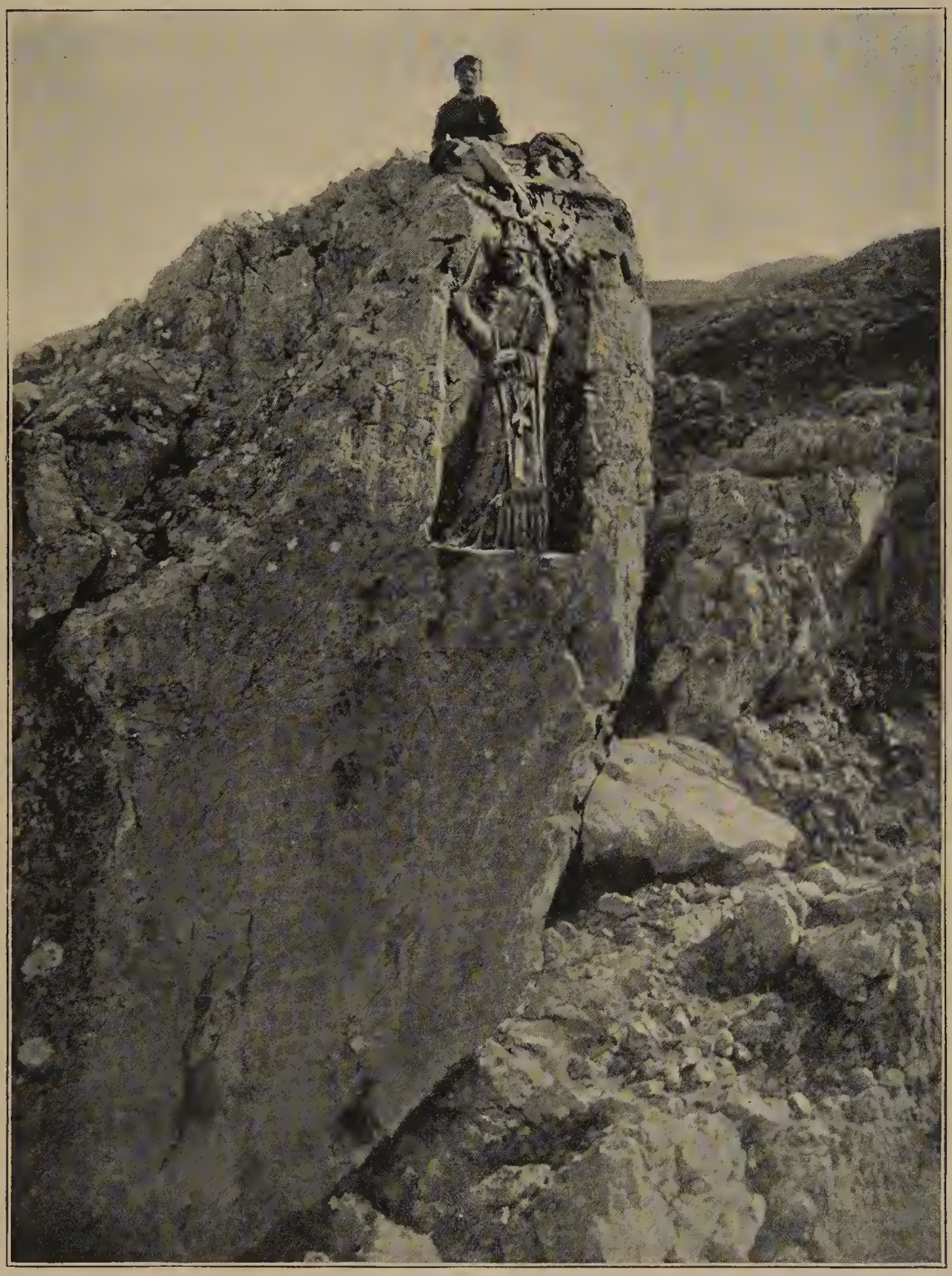
WHILE traveling in the Lebanon with my husband (Rev. Dr. Howie) we spent a few days in Kab Elias, a village of mud huts, picturesquely situated on a steep slope overlooking the Bukaa (Coele Syria) vis-a-vis to Mt. Hermon.

Kab Elias means the tomb of Elijah, and a ruined shrine, near the Mosk and stone sarcophagus under the village fountain, drew my attention to the obvious antiquity of the place. This last interesting relic was my text in interrogating the natives who came to salute us, and it was only a step to "hajar maktoubee" (written stones) or "suar" (pictures). At length one of the company remarked that he knew of a suar (picture), and arrangements were quietly made for me to visit it next day.

Having secured a beast, my guide conducted me up into the mountains and at length stopped before a huge, isolated bowlder.

I dismounted and got into the best position to view what was no doubt intended to be a more than life-size representation of a bull.

My companion had only noticed one figure, but I recognized somewhat less distinctly his female counterpart alongside of him; the muzzle of which with protruding upturned tongue comes out most distinctly in the photo-



ROCK SCULPTURE ON THE BORDER OF COELE SYRIA NEAR KAB ELIAS

graph; the muzzle of a calf is traceable on a line with that of the bull and cow.

The figure of the bull in an upright position in the attitude of walking, with right foreleg in advance and head turned, so as to give a three-quarter view of the face, is at once dignified and expressive.

On the forehead of the bull, the face of a ram in relief as a boss, is so wonderfully combined that the harmony of the bull contour is not spoiled and the eyes, nose, mouth and possibly wing of another creature (which at present I am unable to name) can be traced on the shoulder of the bull. Under the tail and hindermost leg of the bull is the head of a lioness in profile, looking toward the left. This section of the bowlder forms a beautiful, artistic and harmonious group by itself.

On the left-hand section of the bowlder is the figure of a crouching lion, the full face, eyes, nostrils and open mouth, come out with wonderful fidelity in the little picture that I was able to secure of the whole bowlder. The expression of the lion is that of an aged and weary beast. Above the lion's head, two, if not three, human faces are to be distinguished.

What is the meaning of this remarkable monument in the very heart of the Lebanon away up in the mountains, amid the solitude of nature, exposed to the torrential rains and frost of winter and the fierce heat of the summer sun?

How many centuries or rather millenniums has this huge block of gray limestone weathered the storms on this lonely height? These are questions which naturally suggest themselves and which cannot but afford the archæologist pleasurable and curious matter for reflection, but which possibly cannot be definitely answered unless inscriptions are found.

In this connection I would like to call attention to two strange figures (possibly hieroglyphics) which appear on the bowlder, one in the shape of a large W on the face of the cow, and the other resembling a horseshoe on the face of the calf.

There is no doubt in my mind that these sculptures represent Canaanite deities, but whether Amorite, Hittite or Phœnician, future study of them only will disclose. I am impressed with the symbolic significance of all of the animal forms. It is well known now that the bull, the cow, the lion and the ram were among the chief forms of animal worship among the most ancient peoples.

The Chaldeans, the original inventors of the zodiacal signs, give, it will be remembered, the first place to Aries, the ram, then follows Taurus, the bull, and the fifth sign in the circle is Leo, the lion. The Babylonians and Assyrians worshiped divinities under these forms and Sir A. A. Layard, in *Nineveh and its Remains* makes more than one reference to "the close connection in early ages between religion and art."

It would be most interesting to inquire whether, among other things, these sculptures do not offer a strong proof of Babylonian influence on Canaanite art possibly during the Sargonic period taking us back at least 3,800 years B.C.

These sculptures have many suggestions for the Biblical archæologist, too, but the subject would lead us into labyrinths of Biblical and mythological discussion as tortuous as those Theseus ever dreaded, and we are not after the Minotaur of Crete, but the bull of Mt. Lebanon, and we dare not trust to a possible Ariadne to save us, should we happen to take a wrong turn; therefore, for the present we must content to view "the bull" at a

SCULPTURED BOWLDER

distance and allow others to bring it within the charmed circle of their distinguished science.

### THE MISTRESS OF THE PLAINS

At the base of the mountain on which I discovered the "bull bowlder," and situated at the mouth of a steep gorge or ravine, over the rocky bed of which the winter torrents dash with fury, carrying down to the plain of Coele Syria the fertilizing rains which fall on the heights above, stands an immense upright bowlder, a few feet above and beyond the torrent bed, on the upper half of which is a sculpture of a full-length female figure in a standing position looking to the left.

In her right hand slightly extended upward she holds a sword by the haft, pointing upward, while in the left hand she holds a spear, as lightly as a wand, pointing downward. The plaited skirt, upper drapery and ribbons of pockets pendent at her side, make up a graceful and beautiful representation of what cannot fail to be judged as a female warrior.

Unfortunately it, like the group of animals on the "bull bowlder," is very much worn and disfigured by exposure to the elements, the nose is gone and it is impossible to say with certainty what the upper part of the head was like, although it appears to me that there are traces of what much resembles a Minervean helmet.

This figure stands in a niche or square-headed tablet, similar in shape to that which Rameses II dedicated to the sun god Ra, at the Doz River, Nahr-el-kelb, the promontory of which is visible from where I write. Above the figure there seems to be faintly traceable what appears to me, strangely like one of Raphael's "Angels," and if this be not a winged solar disk, it is a very remarkable coincidence that the natural markings of the rock

should be so suggestive. I am inclined to think that, although the rock is so very much worn away above the female figure, that nevertheless the faint indications are no fancy of mine, but that a winged-solar disk, the symbol of royalty, has been sculptured above the goddess, and if this be so, it would at once prove that we have here a representation of the queen of the gods, like the female figure of Birejik, with the solar disk above her, and which has been identified as the queen of the gods.

It is for archæologists to decide whether this sculpture is a Greek representation of Minerva or the older Canaanite representation of Ashratu. of whom Dr. Peter Jensen says in *The Religion of the Hittites* [*Sunday School Times*, May 9, 1898] that this deity plays a double rôle. She is the goddess of love and of passive fertility on one side, and of battle and war on the other. Her lord Hadad Rimmon (Amurru) is called in the Tell-el-Amarna Tablets "The Lord of the Mountains," and I see in the "Bull" on the bowlder some 500 feet above this female sculpture, a representation of the "Thunderer" (bellower) Hadad Rimmon, the weather god and the god of fertility. Now, I consider that this "Lord of the Mountains," "He from the Westland" (Mt. Lebanon), is found exactly where evidently he was looked for by Dr. Jensen, in "The Land of the Amorites," sending down the fertilizing rains from the heights above, to his spouse, who is at the very gate of the plain of Coele Syria and who is called in the Tell-el-Amarna Tablets "The Mistress of the Plains."

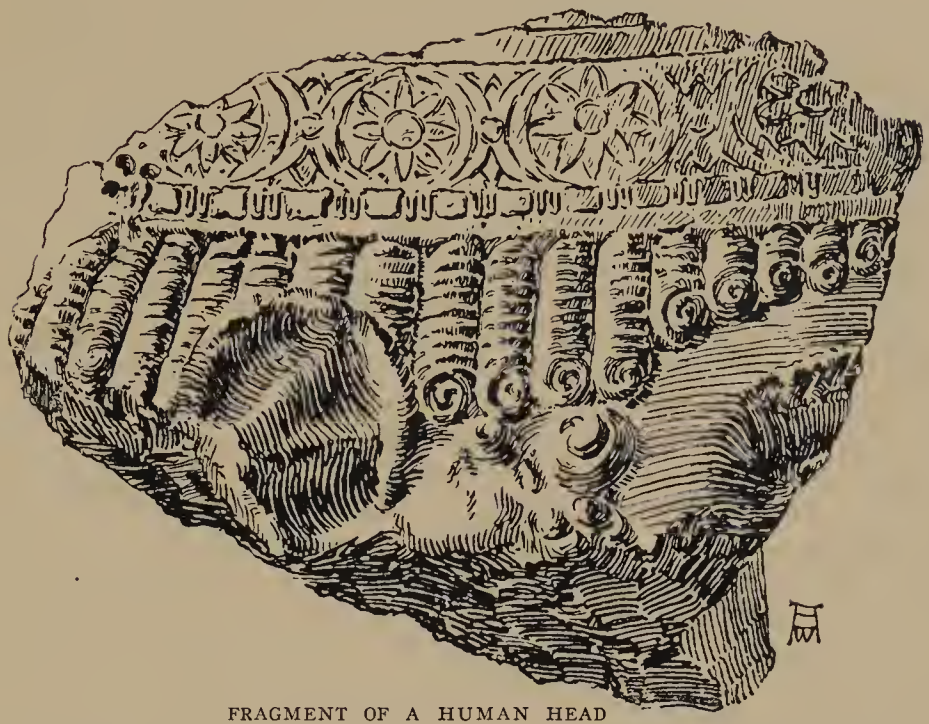
SCULPTURED BOWLDER

## EXCAVATION OF THE RUINS OF BABYLON

PART II

IN the January issue of RECORDS OF THE PAST a detailed account of the organization of the Babylonian expedition of the German Oriental Society and its preliminary work in the ruins of Babylon, during the first half year, was given. The remainder of the German reports will be given in less detail, being a condensation of their weekly letters, but giving complete descriptions of the more important finds.

During the summer of 1899, although the heat was almost unbearable most of the time, an average of 190 men were kept at work 10 hours a day, and they were able to continue work without interruption. The railroad for carrying away the excavated dirt and rubbish reached them on the 14 of July, 1899, and with its aid they were able to uncover a large section of the Kasr mound during the summer.



FRAGMENT OF A HUMAN HEAD

While clearing off the crest of the wall in the northern part of the mound, during the week ending May 15, there were found numerous relief bricks, several fragments bearing monumental inscriptions and other signs which, according to Dr. Meissner, have no relation to each other. The following week a fragment of a Persian inscription was found upon the crest of the castle wall. There was also found a small black stone 9 cm. long by 6 cm. broad, under the "Palace wall," and an impress of both the obverse and reverse sides of this made, also an impress of the inscription and translation. Apart from the establishment of certain sacrifices of wine and cattle for the god Marduk, little can be gathered from the accounts which have been recovered of this inscription. Another small fragment of relief found here shows an extraordinary degree of workmanship.

Along with the relief bricks, which were found regularly on the crest of the wall, there were found also numerous smaller inscription fragments, and to the east of the wall larger pieces of a very finely worked and partly polished dolerite statue of a man standing, and the lower part of the dress with the fringes and openings for the feet preserved. The fragment is 35 cm. long, 55 cm. broad and 35 cm. thick.

AN OLD PERSIAN INSCRIPTION

A great deal of rubbish toward the north greatly retarded the work, and during the middle of the summer the hot desert winds made the heat almost unbearable in the afternoon. The hours for working were from 4.30 A.M. to 12 M. and from 2.30 to 5 P.M. The building for the members of the expedition was completed and they moved into comfortable quarters by the middle of the summer.

By August 6, the number of broken fragments which had been removed were about 1,500. Mr. Andræ immediately began treating these in color, making drawings of the more important ones and putting the pieces together. As yet no entire brick had been found; they were all very much broken. Dr. Koldewey states that "It appears to us that when the bricks were being stolen the outer glazed portions were supposedly knocked off in order to make the rest more suitable for modern use. In so far this is of advantage to us as these portions are still in existence and have not, like the bricks themselves, disappeared in the walls of the houses of Hilleh. Among other things, we have now put together a brick composed of 5 fragments which fitted together, the separate pieces of which have been found in the course of the last 14 days. It appears as though the frequently recurring figures of animals were pressed out of molds. By far the larger number of these belong to lions walking to the right and to the left. Up to the present time there are so few figures of steers and birds that we have not been able to make a start with putting them together. What we have so far considered parts of human figures (locks of hair, etc.) may just as well belong to steers and so on. I have seen nothing of 'forests, mountains, water and walls' which Delitzch mentions in his *Babylon*, page 13. On the lions the large hairy parts (mane, etc.) are yellow, whereas the mouth, back, legs, head and tail are white."

About this time there were also found some 30 fragments of a dolerite lion "which, judging from its claws, seems to have been of abnormal age. The claw which was found, and not even complete, was 8 cm. long."

During the week ending August 28 the excavating was being done at the northeast corner of the main mound. In the rubbish and dirt out of the walls here the Hittite stele was found and also a dolerite plate 0.44 m. square. On the upper surface of this there is found, in monumental characters, the Assyrian inscription (according to Dr. Meissner), "palace of Adad Nirari, king over all (Kissati), king of Assyria, son of Assurdan, king over all, king of Assyria, son of Tiglath-Pileser, king over all, king of Assyria."

On the 14 of September a large limestone block with a relief inscription was found. "The stone has on the under side an offset, as though it had been let into a base. The surface of the stone has been dressed for the relief inscription about 4 cm., so that to the left and underneath there remains a margin covered with inscriptions and at the top a narrow margin. The right-hand margin is of a different character than the one on the left. It is possible that another block formerly adjoined here, so that the relief, as would be expected, originally stood at the center of the complete monument. The breaking off of the two upper corners has there damaged the inscription and the relief, otherwise the upper surface is well preserved. Only the sign of the Winged Sun has mostly been chiseled out. The relief is fine and excellent, here and there showing evidence of careful work. Several large erasures are noticeable in the inscription, in which the writing is chiseled worse than in the rest. The stone was found in the same level of rubbish as the Hittite Shell of the 22 August, about 10 m. to the west of

same, about 6 m. below the surface and about 7 m. to the north of the well-known Lion.*

On the 17 of October a large inscribed fragment of black dolerite was found on the eastern partition wall in the north corner of the Kasr mound. This is probably a fragment of an inscription of Darius I. The contents so far as preserved and decipherable appear nearly related to those of the Behistun inscription.

By the 15 of November the excavation at the northeast corner of the main mound had proceeded far enough to show the outlines of the walls, which are to a great extent broken off within a short distance of the subterranean water line. The inner shell turns to the west toward a wall 11.60 m. thick, which represents the northern terminus of the mound.

A small gate, 1.60 m. broad, lay before a portal-like entrance of the same breadth which was covered with a ceiling of timbers. The corner before the inner shell and the north wall is filled with an immense mound of broken bricks. The outer shell turns toward the east, but its further course has not been discovered.

Yet another wall extending into the hill adjoins the ends of the outer and inner shell. Between the two extends the transverse wall at the upper end of which, now destroyed, a gate possibly formed the entrance to the road which is located on Sandkern. Two walls of clay bricks stand on the oldest (Nebuchadrezzar) paving of this road.

On November 27 Dr. Koldewey writes that Mr. Andræ was working on several colored reproductions in natural size, of the different types of lions which have been found.

1. Type of lion walking to the left, with white pelt and yellow mane.

2. Type of lion walking to the right, one with white pelt and yellow mane and one with yellow skin and green mane.

3. Outline sketch of a lion walking to the left, with white pelt on which are given the inventory numbers of those fragments which have been up to this time noted for this type. This sketch shows that at least 15 identical samples of this class must have been in existence.

4. Outline sketch of lion walking to the right, with white pelt on which are likewise given the respective inventory numbers.

Besides the reliefs from which the above-mentioned drawings were made, we found fragments of animals, such as steers and birds, which cannot yet be put together; also lions running to the right and to the left. These are quite similar in form and color, but differ in the arrangement of the figures. On these reliefs two types appear, in two different forms of coloring; either with the white pelt and yellow mane or with yellow pelt and green mane; the latter being more scarce than the former. In addition to these, others are also found of the same type with variations specially bearing on the position of the tail which is sometimes stretched out straight and at other times more curved.

My former assertions, says Dr. Koldewey, regarding the original location of the reliefs is being more and more confirmed from observations of these discoveries. According to these, the lions running to the left were

*Reference is here made to the somewhat crudely carved, immense lion of black basalt, which from time immemorial has towered up out of the ruins of the Kasr. It is "a lion standing over a naked human figure lying on the ground, the entire piece being of basalt" (Sachau). F. D.

on the west side of the outer shell, and those walking to the right on the east side of the inner shell of the eastern fortification.

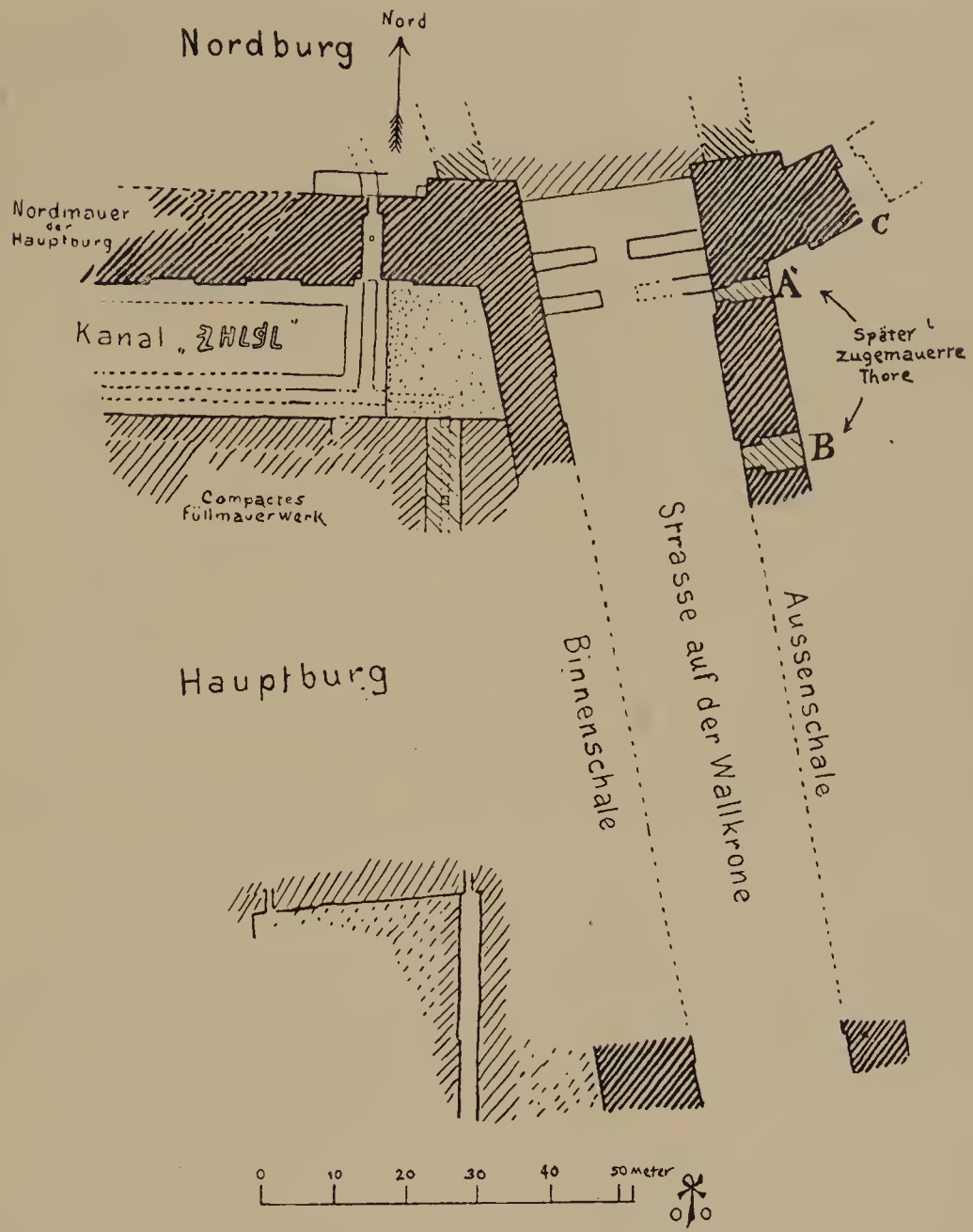
The entire line of animals therefore stretched on both sides of the street wall toward the north, in the same direction in which the street takes a slight drop. Whilst working on the reconstruction we suffered from lack of space, for we were not able to lay out all the fragments at the same time. Up to the present time 4,900 relief pieces are on hand, not including the pieces of one color and the striped rosette ornaments. These 4,900 relief pieces filled 15 cases, the ornaments 23, and those of one color 67. The drawing of the various types has been considerably simplified for the reason that many samples proved to be historical. In the drawing of the large white lion, not a single part was found for which Mr. Andræ did not have the original in the shape of a relief. On the other hand, some things, which are not in relief, have so far remained in doubt, namely:

1. The style of layer on which the relief stood;
2. The number of layers of monochrome backgrounds, which were located between the relief and the rosette strips which ran along the top;
3. The distance between the black and white cross strips, which, in some way, divided off the entire relief in a perpendicular manner;
4. The distance between the rosettes;
5. The distance between the various animals.

And finally the possible coloring of the cement in the joints.

During the first week in January Dr. Koldewey was able to distinguish that portion of the outer shell which turns to the east and was able to move the same. At the point of turning there appeared to be a gate to the north castle. Two other doors, A and B, were brought to light in the outer shell. These doors, which reached below the ancient ground, had later been walled up. It appears as if it turned out to be necessary to wall them up on account of the accumulation between the walls, which was not formerly intended. These circumstances vividly recall the paragraph from the large Nebuchadrezzar inscription [*Keilinschriftliche Bibliothek*, Vol. III, 2, p. 21] "of Imgur-Bel and Nimitti-Bel, of the gates of both, the entrances were too low, on account of the piling up of the street of Babylon. These gates I tore down, and laid their foundation at the surface of the water with naphtha and bricks."

The canal, 9 m. broad, which stretches along the south side of the north wall, is built of bricks, which bear the Aramaic stamp „ZHLGL". As the canal runs from the Euphrates directly toward the east, I would conclude that in this stamp is to be found the commencement of "Lilil-chegalla," which is often named "east canal" in the inscriptions, and the authentic position of which is of the greatest importance for the topography of Babylon. To the south of the canal commences compact filling-in-work (cooper-walling), which in its character is identical with that which came to light in the first transverse cutting (farther south). It seems that this entire eastern portion of the main castle is composed of this cooper walling. It is transversed by smaller canals, which are fed from the Libil-chegalla. About 30 m. west of the present excavation, a new, large transverse cutting through the north front has been begun. Here is shown quite a large hill, called "Athelé" by the Arabs, and to the south adjoins the Servitory, in which are located the brick columns of the real palace and which are still standing upright. Furthermore, I have commenced work upon the extension projecting from the east front.




MR. FREDERICH DELITZSCH'S DESCRIPTION OF THE TWO MOST IMPORTANT DISCOVERIES OF THE SUMMER OF 1899

On the 22 of August a stele of dolerite, 1.28 m. high and 0.53 m. broad was found, which, on the smooth side bears the likeness of a Hittite god. The sketch made by Mr. Andræ shows the bearded god in the position of walking to the right. The two upper arms are raised, the left fist holds the trident, the right the mighty hammer, whilst a sword is girded at the left side. From the head, which is covered with a Phrygian cap, a long plait of hair streams down the back; the fringed tunic only reaches to just above the knees; the feet have pointed shoes. Although the style of the head and face, head and covering of the feet, the swan handle and hammer, leave no doubt that the relief represents a Hittite god, possibly the Hittite god of thunder, still greater evidence is evinced from the fact that the reverse side of the stele bears a Hittite inscription of more than 6 lines. Notwithstanding that a cup had already been found in Babylon, which is also surrounded

by a Hittite inscription, it was hardly to be expected that just a Hittite god and a Hittite inscription should form the first discovery in Nebuchadnezzar's Palace City—and a Hittite god at that, almost identical from head to foot with the one which has for years been in the British Museum. A relief, found in 1888 in Sendchirli, which served as a crossing for the wall of a gateway, represents the same god, with the same outer appearance and with like attributes—a valuable piece of evidence as to the section of country from which the relief was doubtless captured and taken to Babylon. The copy of the inscription, which has been announced by Dr. Koldewey, may be looked forward to with interest, as it will surely add new interest to the deciphering of Hittite hieroglyphics.

The second discovery was made on the 14 of September, about 10 m. west of the Hittite stele, being a sandstone slab, 1.33 m. long and 1.21 m. high. This also bears a relief, which is delicately and carefully executed. On Andræ's drawing, one first sees to the left the goddess Istar, turned to the right, uplifting the right hand, and with the left pressing the vault down on the earth. A larger god stands in front of her, likewise turned to the right; it is the god of Adad, with two flashes of lightning in either hand. In front of him, with the right hand reverently raised toward him, stands a much smaller man, and behind this one a third, although badly preserved, god head, of a size equal to the god Adad. In short, these notes accompanying the descriptions of the relief give full information about the character of the persons in question: "likeness of the god Adad," and above the worshiping man, "likeness of Samas-res-uzur, the governor of the countries of Suchu and Maër." Between the man and the god Adad are found the words: "One measure of flour, one stated measure of wine is decreed by this stone tablet: he who guards the palace shall partake thereof."

To the left of, and below the same are found 5 new Babylonian columns of writing, in which Samas-res-uzur recounts everything he has done for the safety and welfare of his country. He tells that whilst on a journey to a feast in the District of Baka he heard that 400 men of the tribe Tu'amânu had invaded his capital. With the palace guard accompanying him, he at once crossed the river, pursued the invaders, killed 350 of them and let the remainder go. He further boasts that, by clearing away the masses of reeds, he has again made navigable the canal of the land of Suchu, which had gone to ruin, and has made it 22 yards broad, and he has rebuilt his capital and called it Gabbarini and prepared a beautiful home there for the god heads Adad, for the son of Adad, for Sala and Darian. No less does he seem to have been interested in the culture of palms which he planted around the palace of his capital. He also planted palm groves in other districts of his land, for instance at Kar-Nabu. At the close of his inscription, Samas-res-uzur commends as one of the most notable deeds performed by him during his term of government, the fact that he has colonized "honey-gathering *habûbêti*" (*i. e.*, most probably bees), brought down from this and that mountain, in the gardens of the city Gabbarîni, these never before having been seen or introduced in the land of Suchu.—"Whosoever"—so concludes the text—"will in the future arise, let him ask of the oldest people of this land, if it be not the truth that the honey bees in the land of Suchu are the work of Samas-res-uzur, the governor of Suchu." Very instructive also is the coupling together of the land *Na-er Na-ri* with Suchu, as it at all events indicates in a general way where we are to look for this city and this land *Na-er*, which was already known at the time of Hammurabi. It was

doubtless adjoining to the land of Suchu, and the monuments of the Assyrian king Asurnazirpal primarily teach us, it lay on both shores of the Euphrates to the north of Babylon, and was from ancient times entirely under Babylonian influence. In the year 880 B.C. we read of Governors of the land of Suchu, with Babylonian names, and supported by the troops of the king of Babylon. We cannot yet determine with certainty which was the 13 year of Samas-res-uzur, from which our description dates.

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## ANCIENT HANKOW

BY DR. W. A. P. MARTIN

*President of the University of Wuchang*

CHINA possesses few notable monuments, but she is herself a monument of past ages. She resembles an ancient cypress that retains its youthful vitality rather than those fragments of architecture that remind us of perished races. In Egypt and Asia Minor such relics meet the eye of the traveler at every step, while on the Euphrates, if he does not see them, he has only to turn up the sod and find them in their graves.

However wonderful the career of those buried nations has been, is it not more wonderful that the people who were contemporary with Pharaoh and Cyrus should survive in undiminished vitality and demand to be reckoned with our statesmen of to-day? In lieu of broken arches or crumbling walls, I present the two accompanying views combining the permanent and the ephemeral. Their permanent elements are this noble river (Yang-tse-Kiang), the longest in Asia, and the hills on its banks, which, though not remarkable for height, are prominent features in the scenery. The more fragile elements are two pagodas which have nothing permanent but their style.

These are so perishable that it would be safe to assert that they have renewed their youth a dozen times within the last 1,000 years—reappearing each time as a fresh print from an old block, so that the present pagodas seen in the accompanying illustrations are exact reproductions of those occupying the same site centuries ago. One of them in fact—that which overlooks the river—is just now rising from a bed of ashes into which it was transformed by a spark from a firecracker. In front of it is a pretty little tower of solid stone, said to be in the style of Thibet, crowning the principal gate of this city (Wuchang). They have the advantage of rising from the extremity of a long hill, whose backbone, the Chinese say, was broken by the impetuous flood.

A chief feature of this locality—one that has made it the symposium of Central China—is the junction of the river Han, which flows into the larger stream at a point nearly opposite this pagoda. Hankow owes its existence to this fact, as its name indicates—signifying the "Mouth of the Han." On the other bank of the Han stands the city of Honkong, the two, with Hanyang, forming a trio somewhat like the three great cities that have sprung up at the mouth of the Hudson.

Our earliest notice of this locality dates back 4,300 years, to the days when Yu Wong, that model engineer, opened the water courses and drained

the fields after the occurrence of a flood which the Chinese compare to that of Noah or Deucalion. Nine years were spent in the task and it is said that, although he thrice passed his own door, he never stopped to sleep at home—so absorbed was he by the magnitude of his enterprise! In recompense for this achievement he was raised to the Imperial Throne.

The other pagoda stands at the foot of a hill in the rear of the provincial Capital and marks the approach to a famous Buddhist Monastery.

A spot of interest from a historical point of view is a place called the Red Palisades some miles above the city, where in the IV Century of our era a notable battle was fought which decided the fate of the Empire. The ghosts of the warriors who fell there are now frightened away by the scream of foreign steamers engaged in trade along the river.

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# EDITORIAL NOTES

**HISTORICAL RESEARCH, EXPLORATION AND THE BIBLE:** The history of exploration in the centers of ancient Oriental civilization has from the first been closely identified with the Bible. The founders of the Egypt Exploration Fund, the Palestine Exploration Fund, the Babylonian Expedition of the University of Pennsylvania and others have had for their chief object the ascertaining of facts relating to the peoples mentioned in the Bible. For upwards of 2,500 years the Bible has been the chief historical work dealing with the earliest history of man. It is as a historical work that RECORDS OF THE PAST will deal with it. Were the authors of its several books historical personages? Did they write the books ascribed to them? Are the historical records they left behind them true? These are the important questions we may consider from time to time in connection with the work of exploration and research.

Mr. W. S. Auchincloss, a busy layman of New York City, has just published a work entitled *The Only Key to Daniel's Prophecies.** He has given the time necessary to work out the problem for the purpose of establishing the faith of his fellow-laymen in the Bible. Being possessed of ample means, he has placed his work, produced in the most artistic form, within the reach of every student of the Bible. Prof. A. H. Sayce, one of the greatest living authorities on Assyriology and Biblical archæology, has added a brief introduction. He sums up his estimate of the author's labors in the words "There is little to say as the book tells its own tale, clear and to the point." This work and the appearance in England at the same time of a volume in defense of the Bible from the pen of a distinguished lawyer show that laymen are not behind in following the work of historical research. It is a notable fact that our most cultured laymen and members of the legal profession are foremost among the defenders of the integrity of the Bible.

Mr. Auchincloss' work, as Prof. Sayce states in his introduction, "is a great advance on all previous interpretations." It is evident that the

**The Only Key to Daniel's Prophecies*, by W. S. Auchincloss. Introduction by Prof. A. H. Sayce, LL.D., Queen's College, Oxford, England; New York: D. Van Nostrand Company. 1903.

GATE TOWER AT WUCHANG, NEAR HANKOW

PAGODA MARKING THE APPROACH TO BUDDHIST MONASTERY

author is a most careful and diligent student of both the Bible and the secular history of the period traversed—541 B.C. to 70 A.D. He familiarized himself with the various modes of reckoning time by the nations of antiquity, but his computations are based on the Stellar System, universally adopted by astronomers and the only one that will give dates with absolute accuracy. His work impresses the critical reader like that of a great mechanical mechanism, in which every part fits its counterpart with precision and all move in perfect harmony. He has proved that the great events in history took place at the time foretold by the prophet, and effectually disposes of the claim made by some critics that the book was written after the events referred to took place, for, as he states, it was written at least 100 years B.C. and the same accuracy is reached in dealing with the events that took place from the birth of Christ to the fall of Jerusalem as those preceding the Christian Era. Any jury of intelligent historical critics will award him judgment on the following counts: First, Daniel is a historical personage; second, he wrote the book bearing his name at the time ascribed to it by the Jewish and Christian Churches; third, the prophecies of Daniel are proved to have been literally fulfilled.

Mr. Auchincloss clears up the mysteries surrounding the most difficult book of the Old Testament and proves that its author was thoroughly conversant with history and chronology and that instead of his prophecies being mystical and indefinite, are exactly the reverse. We are in duty bound to state that we believe the work is the most important contribution that has ever been made to the literature of the Book of Daniel and that it will put an end to doubt in the minds of all unbiased critics. It should be read and reread again and again by every student of the Bible, for it is a classic in historical criticism.

**DISCOVERY OF A PREHISTORIC HEMATITE QUARRY:** The most expensive and important hematite quarry, worked by the aborigines of this country, was discovered last month near Leslie, in Franklin County, Mo., 74 miles west of St. Louis, by Mr. Lewis Cox, who owns large iron mines in that locality. The attention of Mr. Cox was attracted by numerous tunnelings in a strata of hematite ore covering about 25 acres, which lay just below the surface. These tunnels were frequently as high as 8 feet and 5 feet wide. Scattered through these tunnels were a large number of rough grooved mauls made of hematite and granite.

The accompanying photographs show a part of the mine as it exists to-day, and a pile of 1,165 hematite and granite implements used in excavating. While hematite axes have frequently been found in the Mississippi Valley, the prehistoric miners drove their tunnels here for another purpose. The hematite quarry contains pockets of red and yellow oxide of iron, which the aborigines were undoubtedly in search of when they forged their way through the hard hematite beds of ore with their rude implements.

It is almost impossible for us to realize the amount of patient labor required to reach the deposits of red and yellow mineral, which they ground in their mortars to make paint for their personal adornment.

We are indebted to Mr. D. I. Bushnell, of St. Louis, for the accompanying photographs and data.

**AFRICA:** The excavations which have been made at Zimbabwe, in Mashonaland, Central East Africa, have proceeded far enough so that a complete view of the ruins can be obtained. However, the discoveries have

GENERAL VIEW OF HEMATITE QUARRY

PILE OF 1,165 HEMATITE AND GRANITE IMPLEMENTS

added little to the reports of these ruins made by Mr. Theodore Bent a number of years ago:—The French have discovered a number of very interesting objects in their work at Dougga, North Africa, the site of the ancient Roman city, Thugga. In the autumn of 1902, a little over 12 feet below the surface, a very important monument was found, but unfortunately there is a mosque built over the spot. In another section was found a mosaic representing Cyclops forging the arms of Æneas under the direction of Vulcan. This has been placed in the Bardo Museum.—EGYPT: The completion of the great dam across the Nile at Assuan, just below Philæ, and the partial submergence of the temples during the high water makes it important to call the attention of the public to the work which the English engineers have done to strengthen the foundations of the temples to withstand the effect of this submergence. The original plans for the dam were such that they would raise the water high enough to completely submerge the temples. Protests from travelers and archæologists prevented this catastrophy and compelled a change of plans so that only the very base of the temples would be below water during the winter months. As even this flooding of the island was liable to undermine the foundations, engineers began work on the problem of providing practically new foundations for the temples. In doing this work it was found that the foundations were already in a precarious condition and would have soon given way without the hastening influence of the Nile overflow. The West Colonnade of the Temple of Nectanebo and the Temple Isis or "Pharaoh's Bed" and the East Colonnade were placed on solid rubble masonry. Also the Temple of Hathor and the gateways of Hadrian and Adelphos were strengthened. So thoroughly was this work done that, with the extensive new foundations which have been supplied to these remaining valuable relics of the epoch of the Ptolemies, a new lease of life has been imparted to Philæ, sufficient to preserve the famous ruins indefinitely. In fact, the structures now rest upon a more substantial and solid foundation than they have at any time during their prolonged existence.

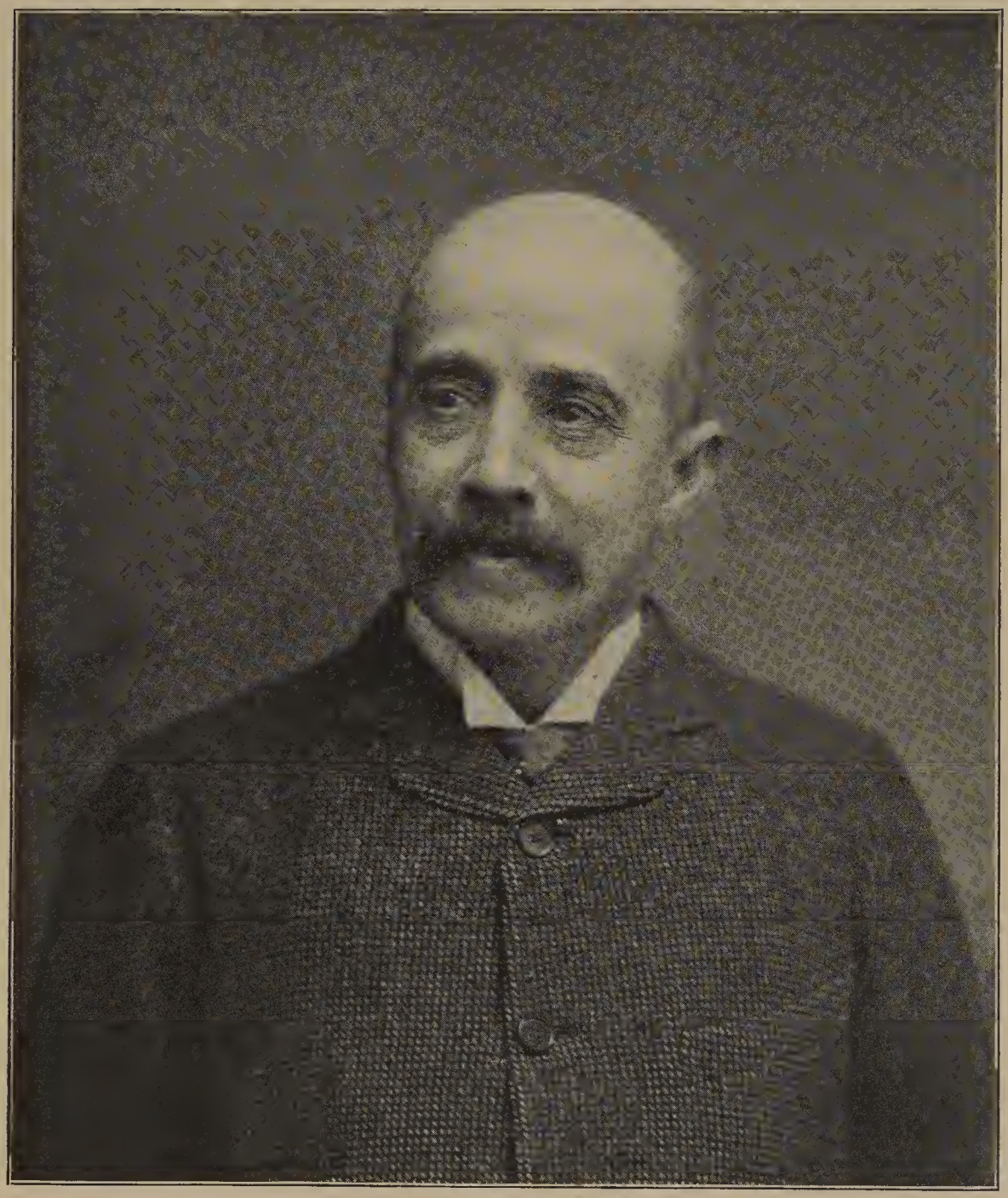
**EUROPE:**—GREECE: The Doric Temple of Jupiter at Nemea, which was overthrown by a succession of earthquakes, is going to be excavated by the Greek Archæological Society. The Greek Government intends to begin excavations at once, and it is expected that valuable discoveries will be made:—The French, after spending an enormous amount of money in the excavations at Delphi, which have extended through the last 10 years, have now restored the Temple. M. Theophile Homolle has been in charge of this great work:—ENGLAND: The British Museum has lately come into possession of some interesting and valuable marbles which were found buried in a "rockery" in an estate in Essex. One is an inscription from a monument erected in Athens in honor of the volunteers from Cleone who took part in the battle of Tanagra against the Lacedemonians and Eubœans, 457 B.C. The inscription was published in the *Archæologia* of the Society of Antiquaries in 1771. Stuart is supposed to have picked up the inscription in Greece when he was preparing that publication. He sent it to Smyrna to be taken by ship to England. There it was lost. It seems, however, that it was brought to England by a navy captain, who gave it to a friend, who, in turn, gave it to a well-known antiquarian, Thomas Astle. It was on the latter's estate that the fragments were found. They had doubtless been thrown away by some unappreciative descendant. In the same estate, a few

days later, a fragment of the Parthenon frieze was discovered. It is supposed that this was brought to England at the same time as the inscription. Thomas Astle was once a trustee of the British Museum.

**NORTH AMERICA**:—UNITED STATES: In our Editorial introduction to RECORDS OF THE PAST [Vol. I, Part I] we called attention to the urgent need for the protection of our antiquities by the Government. Attention was again called to the subject by the Editor in the preliminary report of his expedition to the Southwest [Vol. I, Part XII] last summer and autumn. Last month we received information that several parties contemplated extensive excavations in the Canyons de Chelly and del Muerto during the coming summer. We at once referred the matter to the Secretary of the Interior, with the recommendation that a custodian of the antiquities of the canyon be appointed to prevent excavations without the special permission of his Department. We are glad to state that prompt action was taken and a custodian is now in charge of the ruins. Thus the Government has taken the first important step towards the preservation, from despoliation and vandalism, of the most important center of our prehistoric civilization. For some time the Interior Department has refused to permit homestead pre-emption of land on which are located important ruins. But it is almost impossible to protect them from vandals who excavate for commercial purposes and tourists who delve into the ruins merely to gratify their curiosity or to enrich their private collections. To effectually police that part of the Southwest in which these ruins are situated is out of the question. The only remedy is national legislation, which will make unauthorized excavations a felony. There is every reason to believe that such legislation will be enacted during the coming Session of Congress. The Secretary of the Interior will have the sincere thanks of all who are interested in the history of our prehistoric civilization and culture for having done all in his power to stay the hand of vandalism. Competent scientific exploration is most desirable and to be encouraged. With the appropriation of $3,000,000 by the last Congress for the building of a new National Museum, all should aid in making it one of the foremost in the world and one in which coming generations should, at least, be able to trace the history of the Western Hemisphere up through the ages of the past. Now is the time to protect the ancient landmarks for that purpose:—Dr. MacCurdy, the curator of the Anthropological collection at Yale, recently found an Egyptian mummy of a child which had been stowed away in the attic of the Museum. Beside the child was the hand of a woman of rank and the body of some small animal. This mummy was given to the University by the Rev. Lyman Coleman, in 1858:—J. Pierpont Morgan has recently given $2,500 a year to the American School of Classical studies in Rome for 4 years towards covering the current expenses:—Prof. Nathaniel Schmidt, of the Department of Semitic Languages and Literature at Cornell, has been appointed the Director of the American School of Archæology at Jerusalem. He will be absent from Cornell on this mission from June, 1904, to September, 1905:—Prof. Warren Morehead has been very successful in his work of excavating near Hopkinsville, Ky. Numerous skeletons were found in receptacles constructed out of flat stones; also a number of cups and stone knives:—Dr. Max Uhle, of the University of California, has recently returned from his second expedition to Peru. The publication of the results of his investigations will be of great value. The expense of this work is borne by Mrs.

Phoebe Hearst:—A Pittsburg branch of the Archæological Institute of America was organized with 46 members on May 11:—It is reported from Grant's Pass, Oregon, that a number of prehistoric mortars, pestles and weapons have been found in the gravel of an ancient channel now 50 or 60 feet below the surface:—The expedition of the University of Pennsylvania will start for Nippur in June:—The members of the Jessup Expedition to Siberia, who were studying the natives and their traditions with reference to their relation to the American Indians and other earlier inhabitants of North America, report that they have had the most courteous co-operation of the Russian Government officials and the St. Petersburg Academy of Sciences:—Dr. J. Walter Fewkes, of the Smithsonian Institution, has just returned from an extended trip in the West Indies, with a large and remarkable collection of archæological and anthropological objects. Among these are "Stone Colars," idols and knives, etc., but the most remarkable is an axe. Nothing like it is to be found in the museums of the world. Both faces of the axe are cut in the form of a human being, but the singular feature of it all is that the head of the being represented is toward the blade rather than the head of the axe. There have been a number of very beautiful ceremonial axes found in Mexico and elsewhere, carved in human form, but in none of these does the head of the human being begin at the blade, with the outline of the arms, body and legs running upward toward the head of the axe, as in this specimen. Later in an article we hope to illustrate some of Dr. Fewkes' more important finds.

**PAUL BELLONI DU CHAILLU,** a distinguished member of the corps of explorers, was stricken with paralysis in St. Petersburg, April 29, 1903, and died at midnight. While some uncertainty surrounds the exact date of his birth, it is credibly stated that he was born in Paris, July 31, 1835. When he was a mere youth—17 years of age—he started from his father's trading post at the mouth of the Gabun, on the West coast of Africa, with a few native companions for the heart of the continent and continued his explorations for about 800 miles toward the interior. During his 3 years absence the sum total of his journeyings he estimated at over 8,000 miles. The fruits of his expedition numbered thousands of birds, quadrupeds and guerrillas. The birds, many of which were unknown to naturalists, were stuffed for preservation. There is no longer any doubt as to his being the first white man to discover the guerrilla, pigmy tribes and the great equatorial forests of Africa. On his return in 1852 he re-entered the employ of his father and sailed for the United States with a cargo of ebony. After reaching here he became engaged in educational work, as an instructor in the French language, at what was then the Carmel School and now Drew Seminary, for young ladies, but he possessed the spirit of the true adventurer and explorer and the rest of his life was spent in the field of authorship and exploration. His first appearance as an author was shortly after he reached this country, when he published a series of articles on the Gabun country. His vivid and thrilling descriptions of his travels were regarded by scientific men as fiction. The doubt thus created in the beginning of his career followed him through most of his life. And even to-day many, who surely should know better, speak of him as a romancer. As others entered the field of African exploration the clouds of doubt, which thus far had been hanging over his life, were dispelled. One of the strongest



PAUL BELLONI DU CHAILLU

confirmations of his integrity was the result of the accidental finding by Carl Steckelmann of a part of Chaillu's goods and instruments which had been abandoned after a conflict with the natives during his first expedition in Africa. These were found on the spot where they had been hastily abandoned, and had been left by the natives. It is supposed while examining a musical box the mechanism was started and its strange sounds led them to believe that it possessed some magical power of the white man, which forebode evil to them; thus everything was left intact, and the goods were ever after undisturbed until found by Steckelmann in his search for ivory. The evidence was at once so convincing that Chaillu's vindication was complete. Subsequent explorations have proved the truthfulness of his descriptions of the great forests of Africa, the pigmy tribes and the guerrillas.

Later in life he traveled extensively in Sweden, Norway, Lapland and Finland and other parts of Europe. At the time he revisited Africa he had acquainted himself with the necessary scientific instruments for use in exploration and had become a practical photographer. He early recognized the necessity of an explorer being able to make his own photographs. A want of such knowledge by explorers has resulted in a loss to the scientific world of much valuable data. His travels were for the purpose of accumulating information which he later gave to the public in the following works: —*Adventures in Equatorial Africa* (Harpers); *A Journey to Ashango Land* (Appleton); *Stories of the Gorilla Country* (Harpers); *Wild Life Under the Equator* (Harpers); *Lost in the Jungle* (Harpers); *My Apingi Kingdom with Life in the Great Sahara, etc.* (Harpers); *The Country of the Dwarfs* (Harpers); *The Land of the Midnight Sun* (Harpers); *Ivar the Viking* (Scribners); *The World of the Great Forest* (Scribners); *The Land of the Long Night* (Scribners); *The Viking Age* (Scribners). The Messrs. Scribners, his publishers, will publish during the coming autumn the last of his completed manuscripts.

Du Chaillu was a most fascinating writer. His stories for children made a lasting impression on youthful minds and he won a high place among the great writers in the department of original research.

It is greatly to be regretted that he did not live to complete the work he had undertaken in the Russian Empire. The unkindly feeling that was almost universally entertained toward Russia a decade ago has, as we have become better acquainted with the Russian character, been replaced by that of admiration. His object was to present the social life of the masses, with which he determined to thoroughly familiarize himself by living among them. When he was stricken down he had completed his plans and was about to start on what he knew would be the last expedition of his long, eventful life. We regret that his remains should not be permitted to rest in the field where he fell. We believe that he would have preferred that they should. As Mr. Scribner stated to us a few days ago, undoubtedly his American friends, and they were legion, would gladly have contributed to a fund for a monument to be raised to his memory in the great Northern Empire to which he went to achieve his last victory. Most of his years were spent in foreign countries, although he was a devoted American citizen, having become one shortly after his arrival in 1852. He claimed New York City as his home, and among his warmest friends was the late Judge Charles P. Daly, the President for 35 years of the American Geographical Society.

# RECORDS OF THE PAST

VOLUME II JUNE, 1903 PART VI

Volume II

# RECORDS OF THE PAST

Part VI

REV. HENRY MASON BAUM, D.C.L.
Editor

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MR. FREDERICK BENNETT WRIGHT
Assistant Editor

JUNE, 1903

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## Expedition to the Ruins of the Southwest

The Editor of RECORDS OF THE PAST proposes to conduct an expedition to the Southwest during August, leaving Denver on July 30. The official members of the expedition will include a geologist, anthropologist and archæologist and two assistants. The points to be visited will embrace the Cliff and Pueblo Ruins of Southwestern Colorado and the great extinct volcano Mt. Capulin and the surrounding lava beds; in Northern New Mexico, the Modern Pueblo Village at Taos, Pueblo Ruins at Ojo Calienti and Cavate and Pueblo Ruins near Espanola, in the Rio Grande Valley; the Zuni Pueblo Indians, the great Lava Beds southeast of them and the Pueblo Ruins in Chaco Canyon. In Arizona, the Grand Canyon of the Colorado; the Moki Indians, reaching Walpi in time to attend the Snake Dance; the Canyons de Chelly and del Muerto, and other interesting historical and geological localities.

There will be an opportunity for five additional members to join the expedition. Terms and conditions will be furnished upon application to the Editor of RECORDS OF THE PAST.

## The First Annual Volume, 1902

—OF—

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JUNCTION OF THE CANYONS DEL MUERTO AND DE CHELLY ABOUT 5 MILES FROM CHIN LEE, AT THE MOUTH OF THE MAIN CANYON. IN THE CENTER AND AT THE BASE OF THE WALL ARE SOME OF THE MEMBERS OF DR. BAUM'S EXPEDITION, MOUNTED. THIS PHOTOGRAPH WAS MADE WITH AN AL-VISTA PANORAMIC CAMERA. ALL THE PHOTOGRAPHS USED TO ILLUSTRATE THIS ARTICLE WERE MADE BY DR. BAUM

# RECORDS OF THE PAST

VOL. II PART VI

JUNE, 1903

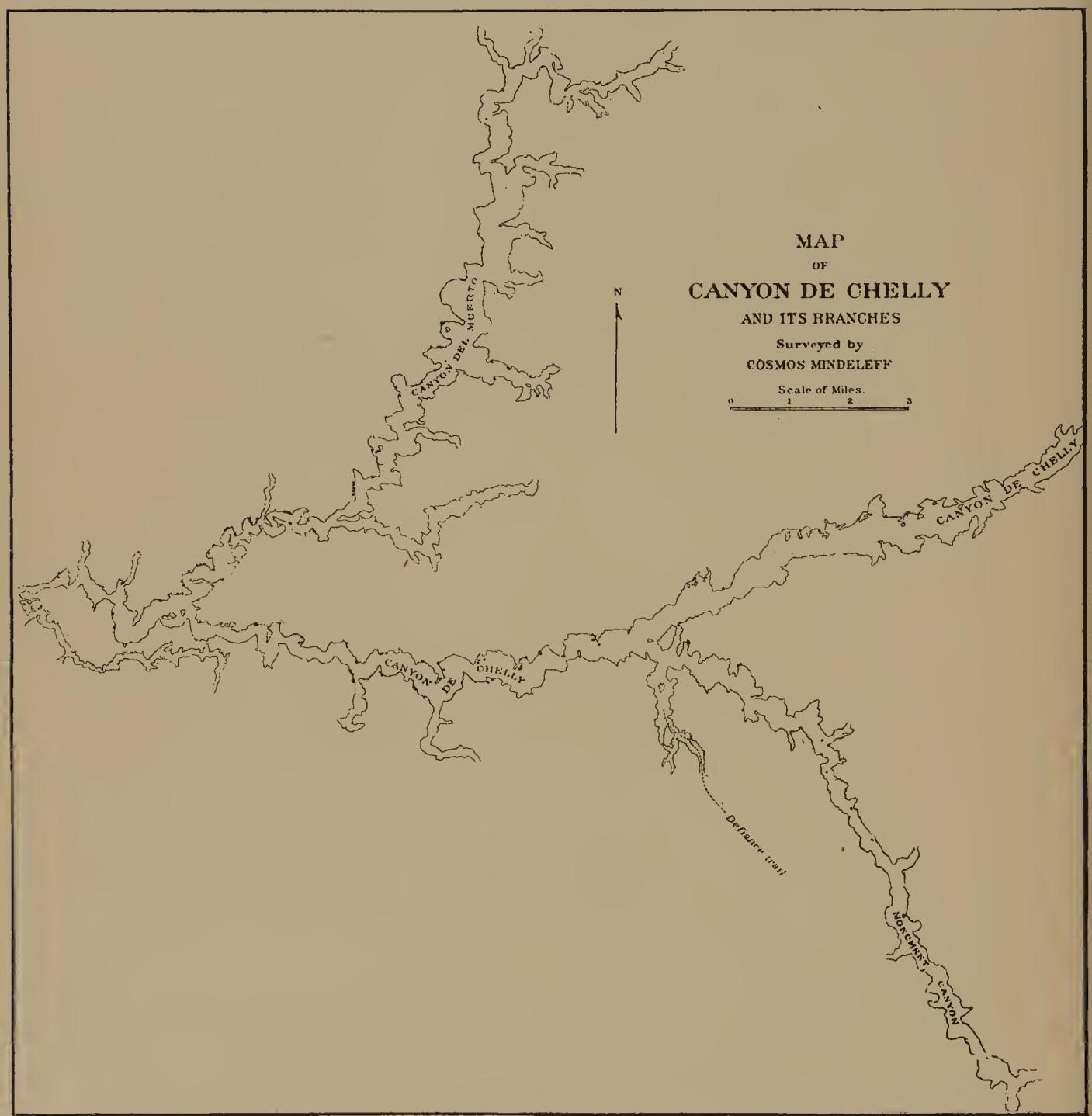
## ANTIQUITIES OF THE UNITED STATES

*De Chelly, del Muerto and Monument Canyons*

BY REV. HENRY MASON BAUM, D.C.L.

IN a series of articles on the *Antiquities of the United States*, to be published in RECORDS OF THE PAST by or under the direction of its Editors, it is proposed to consider the history of man and the extinct forms of animal life and the geological questions related to both, within the territorial limits of the United States.

The most interesting locality, in which different types of ruins are found, is the region in which are located the de Chelly, del Muerto and Monument Canyons and their tributaries, in the northeastern part of Arizona Territory. An official topographical survey of the Canyons by the Government, has never been made. The accompanying map, reproduced from the *XVI Annual Report of the Bureau of Ethnology* [1894-1895], was made by Mr. Cosmos Mindeleff for his monograph in that volume of the reports of the Bureau. The general outlines of the map are correct. It will be seen that the Canyon del Muerto has a general trend to the northward and forms a junction with the Canyon de Chelly about 5 miles from Chin Lee, the mouth of the main canyon. The general trend of the Canyon de Chelly is to the northeast. Monument Canyon forms a junction with Canyon de Chelly about 12 miles from Chin Lee and its general trend is to the southeast, rather greater than indicated by Mr. Mindeleff. Numer-




THIS SKETCH MAP BY MR. MINDELEFF GIVES A GENERAL IDEA OF THE CANYONS. THE RUINS ARE INDICATED BY DOTS; SOME DO NOT APPEAR IN THIS REDUCTION FROM THE ORIGINAL. THE CANYONS EXTEND MANY MILES BEYOND THE LIMITS HERE GIVEN. BUT ALL THE RUINS ARE NOT NOTED BY MR. MINDELEFF. BY FAR THE GREATER NUMBER IS IN CANYON DEL MUERTO

ous tributary canyons branch out from the 3 main canyons varying in length from ½ to over 6 miles. The extreme length of each of the 3 canyons from Chin Lee is between 30 and 35 miles. They vary in width from about 200 feet to half a mile.

During the summer months it is possible to enter the main canyon at Chin Lee with a wagon and ascend the Canyons del Muerto and de Chelly for about 10 miles. But even in midsummer a heavy rain will in a few moments fill the dry beds of the canyons with raging torrents, making carriage travel dangerous. From the sources of the canyons water flows on the surface over boulder beds for a few miles and then disappears in the sandy bottoms, only to be reached by digging.

About 10 miles from Chin Lee in the Canyon del Muerto a difficult Indian trail leads up out of the canyon to the table-land. At the junction of Monument Canyon with that of de Chelly another Indian trail, through a tributary canyon about 4 miles in length, leads to the Ft. Defiance Road. Still another Indian trail about 8 miles up Monument Canyon (north side) leads to the table-land. The three trails are exceedingly difficult to traverse, and even then only during daylight. There are a few other points where it is possible for expert mountain climbers to get out of the canyons, but almost impossible to descend into them.

### NATURAL SCENERY

The natural scenery from Chin Lee to the sources of the canyons is unique and unrivaled. From an almost abrupt descent into the Chin Lee valley the walls rise to varying heights of from 300 to about 1,400 feet. As a rule they are perpendicular, but often project several feet beyond their bases. The walls are of red sandstone and streaked with dark discolorations from the surface above. So very tortuous are the canyons that it is rarely one can see more than a mile ahead. Abrupt turns frequently reveal nothing but a perpendicular wall of stone ahead, with no possible way of advance.

For about 15 miles from Chin Lee an occasional oasis greets the visitor. On these the Navajo Indians grow corn, melons, etc., and sometimes a few peach trees. The brush Hogans, in which whole families live, are not encouraging evidences of advancement in civilization, and are in strong contrast to the Pueblo and Cliff ruins around them, which silently point to a more advanced race as their predecessors. Here and there is a large cotton-wood tree that the spring and autumn torrents have not washed away. Far up the canyons are beautiful groves of cotton-wood and piñons and refreshing streams flow over their rock and pebble bottoms.

In passing up the canyons one is liable to overlook the tributaries entering from the rear of towering walls. I was forcibly reminded of this on the occasion of my second visit to Canyon de Chelly. I sent the commissary wagon and members of the Expedition up over the table-land to camp for the night about 20 miles from Chin Lee on the Ft. Defiance Road, and with Mr. Lorin A. Clancy, my assistant, started up the canyon. It was our intention to return to the junction of Monument Canyon with de Chelly by 4 o'clock in the afternoon and take the trail through Bat Canyon (4 miles) up to the Ft. Defiance Road, which we would be able to reach before dark. But we were late in returning to this point and on our arrival there met a socially disposed Navajo. We knew that Monument Canyon entered at this point and to the right of it two small tributaries, and that

through the one to the extreme right was the Ft. Defiance Trail. We rode along with our Indian friend for about 2 miles, thinking we were in Bat Canyon, when we had the pleasure of meeting a bear. He disappeared through the dense piñons into a deep cove. Leaving our horses in charge of the Indian we started in pursuit of the bear. After an hour's search the Indian called to us and we learned that the bear had made his escape from the cove along the wall of the canyon on the talus, about 300 feet above us. We continued our journey, hoping to overtake the bear further up the canyon. We reached the Indian's Hogan about dark, and were invited to spend the night with him and his family. But we were anxious to reach camp for dinner, as we had taken only a light lunch with us, and were willing to take the risk of getting up to the table-land in the dark. By 9 o'clock we came to the conclusion that we were near the point of ascent. The canyon was very narrow and our trail led through the dense cotton-wood and piñons. But as we went on beautiful spires of sandstone stood out from the walls of the canyon, rising at this point to over 1,000 feet. We knew then that we were in Monument Canyon. But we thought the trail would lead us to some Indian's Hogan where we could spend the night. Another half hour brought us to a point so narrow that the trail ended in the dry bed of the canyon stream. A rattle snake's signal made our horses timid, and dismounting, we found a few feet ahead of us a partially decayed tree that had fallen across the bed of the stream. To this we set fire and, after securing our horses to some trees, spent the rest of the night on a large boulder. As we only had one blanket which was used as a saddle cushion for the camera on our pack horse, the night was not altogether a pleasant one.

At daylight the next morning we decided to follow the trail up out of the canyon. This necessitated 8 miles more of travel in the canyon. But the scenery was beautiful and grand beyond description. Quite a stream of clear water was now flowing over the rocky bottom of the canyon. The ascent to the table-land was exceedingly difficult, and we could neither ride nor lead our horses. The trail led up the north wall of the canyon. In rounding the head of the canyon we frequently had to make detours of a mile or two around little spurs of the main canyon. We reached camp about 4 o'clock in the afternoon.

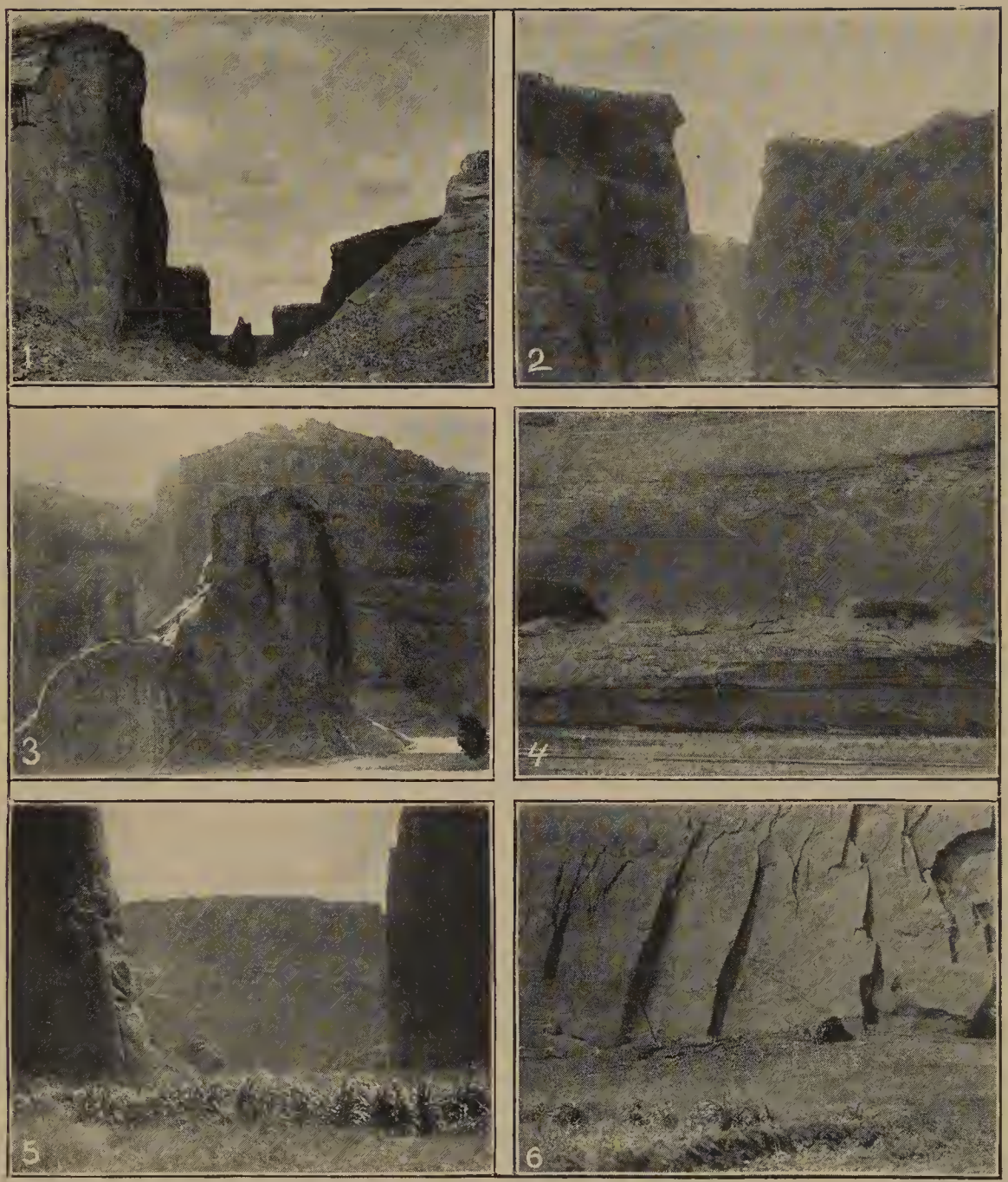
I mention this incident to show how easy it is to overlook the entrance to a tributary canyon. When the natural beauties of the canyons are known to the general public, no locality will attract more visitors than this.

### ANTIQUITIES OF THE CANYONS

But it is not the natural beauties of the canyons that absorb the attention of the student of our prehistoric civilization. From the very entrance to the main canyon at Chin Lee, far up into the three canyons and some of their tributaries, are scattered Pueblo and Cliff ruins, the exact number of which is not known, for a thorough exploration of them has never been made for this purpose. But there must be over 200. Mr. Mindeleff has located about 140.

These ruins may be divided into two classes, viz:

First: Cliff ruins, which vary in size from a single room perched on some ledge of a canyon wall, to a great communal building, several stories in height, built in a deep rock cave, numbering from 25 to 75 or more rooms and which must have housed over 100 persons.




1, VIEW IN CANYON DEL MUERTO; WALL ON THE LEFT IS ABOUT 1,200 FEET HIGH; 2, VIEW IN CANYON DE CHELLY; WALL ABOUT SAME HEIGHT; 3, CHURCH ROCK IN CANYON DEL MUERTO, WITH RUIN ON NAVE JUST BACK OF TOWER; 4, CLIFF RUINS IN CANYON DEL MUERTO; 5, VIEW IN CANYON DE CHELLY, WITH CORNFIELD IN FOREGROUND; 6, PUEBLO RUIN IN CANYON DE CHELLY ABUTTING CANYON WALL

Second: Pueblo ruins on the canyon bottoms, adjacent to or abutting the walls of the canyons.

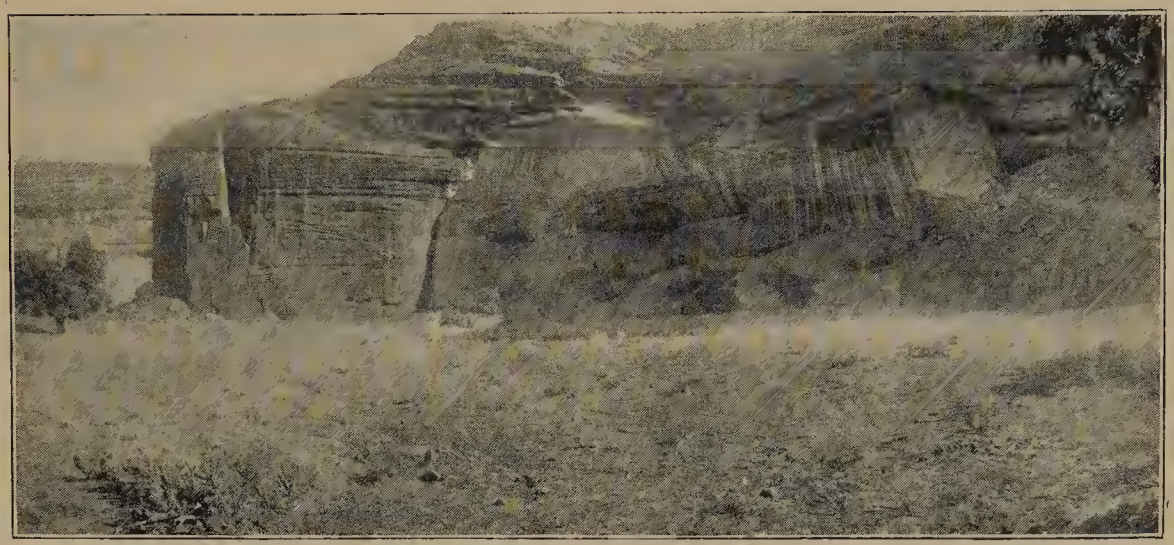
Mr. Mindeleff subdivides these ruins into different classes, but I think without reason. Each class varies in size and character just as the buildings of a modern village do. He greatly underestimates the number of people they once housed, and fixes the total population at from 300 to 400. It seems to me that to anyone who has made a study of Pueblo and Cliff communal houses, a conservative estimate would be at least 15,000. I do not believe that the people who lived in these canyons depended wholly upon the agricultural products of the canyons. The canyons are nearly in the center of the prehistoric civilization of the Southwest. The Pueblo ruins are not as large and extensive as those of the Chaco Canyon and in a few other localities, and the Cliff ruins do not equal in size those in the Mancos Canyon, Colorado. The opportunities for architectural expansion were not the same. But the material and workmanship of the Cliff and Pueblo ruins of these canyons are the same as in similar ruins in other parts of the Southwest.

### PUEBLO AND CLIFF DWELLERS

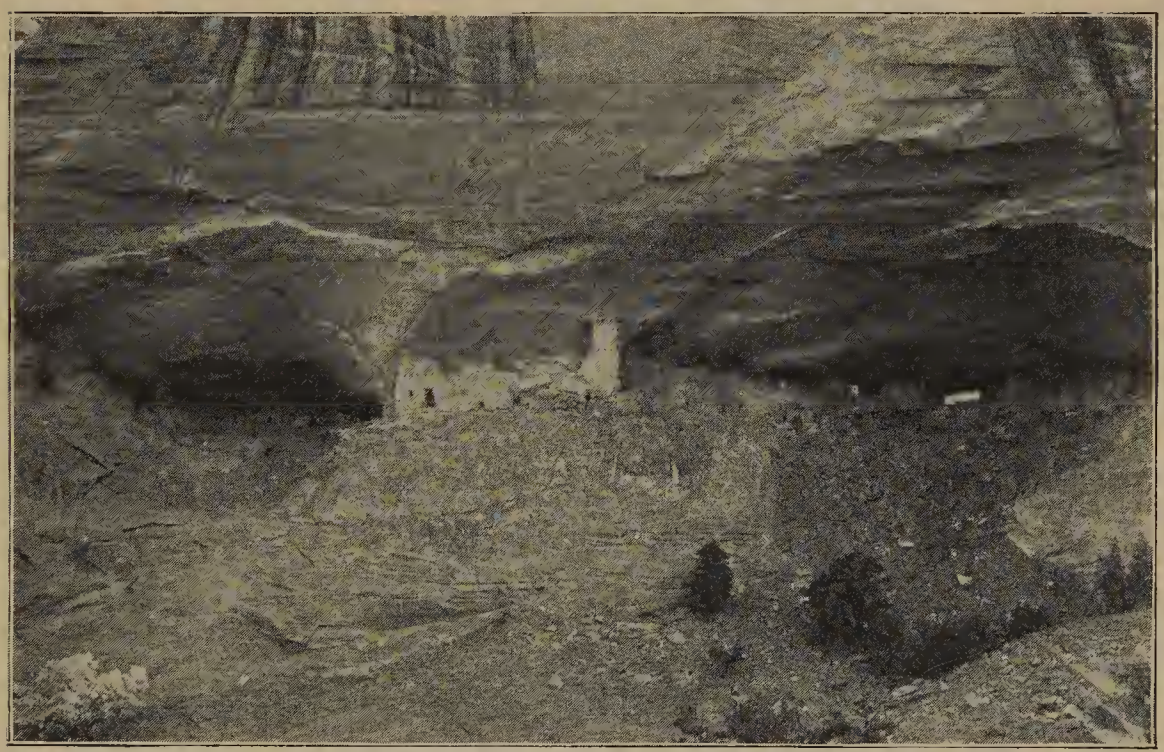
Here the Pueblos and Cliff Dwellers lived in close relationship. They constructed their buildings of the same material, and there are several instances in the canyons where Pueblo buildings were erected directly under Cliff houses. In the case of the Casa Blanca ruin, in the Canyon de Chelly, the Pueblo building was about 40 feet in height and access to the Cliff house above it was had from the Pueblo. Not only is the building material the same in both classes of buildings, but the stone implements, pottery, fabrics and human remains are the same. All lead to but one conclusion, viz., that the Cliff and Pueblo dwellers belonged to the same race and possessed the same characteristics.

### CHARACTERISTICS OF THE PEOPLE

There are no evidences that the people were aggressive and warlike in character, or that they sought the seclusion of this labyrinth of canyons for refuge from an alien and warring race. The great majority of Cliff dwellings are not difficult of access from the canyon bottoms. The construction of the houses show that there was no provision made for more than the daily supply of water, which would have rendered it impossible for the besieged to hold out for more than 2 or 3 days. The inhabitants of the canyons would have been subjected to harassing and destructive attacks from the enemy above, a mode of warfare adopted by the Indians when Gen. Kit Carson's advance column in 1863 entered the Canyon de Chelly by way of the Ft. Defiance Trail at the junction of de Chelly and Monument Canyons. Captain Loughran, who led the advance guard down through the canyons, informs me that they were frequently harassed by the Indians rolling rocks over the bluffs, which would sometimes bound from one side of the canyon to the other and necessitated their taking shelter in the cliffs under the overhanging walls. The crashing of the rocks on the canyon bottom sounded, he said, like the reports of heavy artillery. Again, the entrances to the canyons could have been easily held by the enemy and the imprisoned inhabitants soon reduced to starvation. A large force could have moved up through the canyons as was the case in the Canyon del Muerto during the Spanish Conquest when so many of the



PANORAMIC VIEW IN CANYON DEL MUERTO SHOWING MUMMY CAVE



VIEW OF MUMMY CAVE AND RUINS

MUMMY OF AN OLD CLIFF DWELLER WITH BOW AND ARROW FOUND IN CANYON DEL MUERTO

Indians were massacred, giving to the canyon the name it has since borne—"Canyon del Muerto—the canyon of death."

### TIME OF OCCUPATION AND EVACUATION

When were the buildings occupied by the people who erected them, and when and what was the cause for their leaving them? No one knows. There was a time when the prehistoric population, numbering many millions, of this part of the great Southwest was blotted out or driven from thousands of homes now in ruins. To me, it seems that it was when the volcanoes, like that of Mt. Capulin, were in a state of eruption and the great streams of lava were flowing over thousands and thousands of acres, still darkened with vast deposits of lava. But when those convulsions of nature took place the geologists are unable to tell us. A few of the cliff ruins in these canyons were inaccessible save by steps cut in the hard sandstone. In some places time has almost obliterated them. It has taken several centuries to effect this.

It must not be forgotten by the historical student, that the buildings in these canyons were constructed of stone that had to be quarried and faced by rude stone implements and frequently carried up steep cliffs to the caves in which the buildings were erected. It required many years of patient toil to accomplish all this. Only the modern architect can form an idea of the labor and time required for the construction of these avenues of unique buildings. The evidences of handiwork remaining show that there were many accomplished artisans among this primitive people. Exquisitely formed and decorated pottery, fabrics finely woven and in beautiful designs most difficult to execute and well-shaped stone implements prove that a high degree of culture had been reached when they were compelled to leave their homes.

On the ceilings and walls of caves, in which are found ruins, and high on the walls of the canyons are countless pictographs, many of which are in colors. These are all the written records they have left behind them. Whether a connected story of the life they lived can be constructed from them remains for some modern Young, Champollion or Rawlinson to determine.

In one of the Cliff ruins was found last autumn a corrugated jar about 20 inches in height, in perfect condition, filled to the brim with beans blackened with age. Other evidences have been discovered in the ruins showing that the occupants were not driven from their homes by famine. The mummy of an aged man, enveloped in well-preserved feather-cloth, was found in another Cliff ruin last autumn. By his side was a bow and arrow of perfect workmanship. As I made the accompanying photograph of the ancient Cliff Dweller and his bow and arrow, it seemed to me that a more pathetic discovery had not been made in recent years.

In another Cliff ruin was recently found the well-preserved skeleton of a male dwarf perfectly normal, about 35 years of age and about 33 inches in height. So far as I know this is the only discovery of the kind that has been made in the prehistoric ruins of the Southwest. It opens up a wide field for investigation, which may bring the student face to face with a race of dwarfs found in some of the native tribes of Africa. Each tribe is the possessor of from 1 to 4 of these dwarfs, whom they regard as their wise men. The saying is current among them that "you can fool a native many times but a dwarf but once." This skeleton and the mummy of the

CASA BLANCA CLIFF AND PUEBLO RUINS, CANYON DE CHELLY

PUEBLO RUINS IN CANYON DEL MUERTO ABUTTING CANYON WALL. TO THE LEFT AND ABOVE THE RUINS IS THE SWASTIKA CROSS, FOUND IN BOTH HEMISPHERES. THE LOWER ARM OF THE CROSS HAS BEEN INJURED BY THE BREAKING AWAY OF THE ROCK. THIS CROSS HAS BEEN FOUND ON DECORATED POTTERY OF THE CLIFF DWELLERS

I, PICTOGRAPHS ON CANYON WALL UNDER CASA BLANCA CLIFF RUIN IN CANYON DE CHELLY; 2, PICTOGRAPHS ON CANYON WALL IN CANYON DEL MUERTO; 3, THE MOST EXTENSIVE SERIES OF PICTOGRAPHS IN THE CANYONS. THIS CAVE IN CANYON DEL MUERTO IS ABOUT 100 FEET ABOVE THE CANYON BOTTOM, AND THE PHOTOGRAPH WAS MADE UNDER DIFFICULTIES WITH AN AL-VISTA PANORAMIC CAMERA

aged Cliff Dweller and the jar of beans are in Mr. Day's rare collection.

That any of the present Indians of the Southwest are related to this prehistoric people I do not believe. The history of the Nile and Tigro-Euphrates Valleys shows that the people inhabiting them frequently advanced in civilization and culture and then fell back to a lower level and in time advanced again. But there is nothing to indicate a like condition of things in North America.

The Navajo Indians, in whose reservation the canyons are located, do not claim and have no traditions connecting them with the builders of the Cliff and Pueblo houses now in ruins. Since their return to this region, over 10 years ago, they have buried some of their dead in the ruins, but these can easily be distinguished from the earlier burials by the manner of interment. A notable instance is to be observed in that of the mummy here figured, inclosed in feather cloth. I can only state here that I do not believe the ancestors of the Hopi, Taos and Zuni Pueblo Indians were related to the ancient Pueblos and Cliff Dwellers. There are many points which I shall consider later in treating of their buildings and culture that make any relationship quite improbable. A systematic examination of the ruins and study of present conditions will only solve the great problem. This has never been undertaken.

The importance of this prehistoric center of our American civilization and culture cannot be overestimated. It is fortunate that, on account of its being little known to the public and the relic hunter, little damage has been done and that the ruins are now beyond the reach of the despoiler. The Interior Department has placed a custodian in charge of them, and only with its special permission will further excavations be permitted. I called the attention of the Secretary to their importance and that extensive excavations had been planned for the coming summer by irresponsible parties, and urged the appointment of a custodian. My recommendations were promptly acted upon, and we now have this most interesting locality preserved for future study and investigation by students of American history. Mr. Day, the custodian, as we rode through the canyons last summer, urged upon me the necessity of prompt action being taken by the Government for the protection of the ruins. A more competent man for this important position could not have been selected.

MUMMY, PARTIALLY PRESERVED, OF DWARF ABOUT 33 INCHES IN HEIGHT, FOUND IN CANYON DEL MUERTO

# THE FOUNTAIN OF JUTURNA IN THE ROMAN FORUM*

BY MISS HELEN LOUISE BISHOP

BEFORE the summer of 1900 the name of Juturna was comparatively insignificant, even in the eyes of the classical student, while the location and even the existence of her fountain in the Roman Forum were considered problematical. When, therefore, Signor Boni, Director of the excavations, tore down the mediæval church of Santa Maria Liberatrice, on the north side of the Palatine, and brought to light evidences pertaining to a somewhat extensive worship of Juturna, he opened up a new and interesting field for study. So little is generally known of this obscure divinity that it will perhaps be well to trace out the legend from the Roman traditions, in order to a full understanding of her worship as now revealed to us.

Though the early Roman writers make no mention of Juturna, she had a place from a remote period in the unwritten legends of the people. We find evidence of her worship in myths and in the names of pools and monuments. She seems to have belonged to the class of divinities whose cult found expression in the superstitious beliefs of the simple folk, rather than in the writings of history or of poetry. When we come upon the name of Juturna in the few scattered references of the later authors, it is used without explanation, and with a familiarity that testifies to the general knowledge and recognition of her place among the lesser Roman divinities.

There is reason to believe that the ancient form of the name was Diuturna; a basin in the Vatican bears an inscription dedicating it to the goddess Diuturna. Tomasetti, in interpreting this inscription, calls attention to the analogy between the formation of the word Iovis from the archaic Diovis, and Iuturna from Diuturna. [*Bull. dell Inst.*, 1871, p. 144.] Furthermore, in a passage of the Cluentius of Cicero, and in one of Florus, the best manuscripts have the older form of the name. [*Cic., Clu.*, 101; Flor. I, 28; *Mommsen, Eph. Epig.* I, p. 36]. Varro says of Juturna: "Lympha Iuturna quae iuvaret; itaque multi ægroti propter id nomen hinc aquam petere solent,—The nymph Juturna, one who gives aid; and so because of her name, the sick are wont to carry water hence." [*Varro, Ling. Lat.*, V, 71]. This derivation, making Iuturna "one who gives aid," would be not improbable, if the archaic form Diuturna had not preceded Iuturna.

No doubt Varro had in mind the characteristics peculiar to this divinity when he derived her name from Iuvare. For it was as the nymph who presided over healing waters and freely bestowed benefits upon mankind, that she was worshiped by both the earlier and the later Romans; and her worship found occasional mention in literature. Frontinus, in his work on the aqueducts of Rome, gives Juturna a place with Apollo and the Camenæ, as one of the divinities of health-giving springs: "Fontium memoria cum sanctitate adhuc extat et colitur; salubritatem enim ægris corporibus afferre creduntur, sicut Camenarum et Apollinis et Iuturnæ,—The memory of

*Read at the Classical Conference at Ann Arbor, Michigan, May 27, 1902, and revised for publication in RECORDS OF THE PAST.

springs has hitherto been sacredly cherished; for it is thought that they restore the sick to health, as the springs of the Camenæ, of Apollo and of Juturna." [*Front. De Aquæ Ductibus* I. 4].

Statius suggests the same thought:

Quis fonte Iuturnæ relictis
Uberibus neget esse pastum?

"When the fertility of the land has failed, who would deny that there is nourishment in the spring of Juturna?" [*Stat., Sil.* IV. 5, 35].

The poet Propertius, though he does not use the name, undoubtedly refers to Juturna in the lines:

Albanus lacus et socia Nemorensis ab unda
Potaque Pollucis lympha salubris equo:

"The Alban lake and the kindred water of Nemi, and the health-giving nymph, from whose stream drank the horse of Pollux." [*Prop.* IV (III) 22, 25].

This reference to the "horse of Pollux" suggests a further aspect of the myth of Juturna, the story of the Battle of Lake Regillus. The legend is familiar, and even from childhood days our enthusiasm has been kindled by Macaulay's poem, while we have read of Juturna's fountain in the stirring lines:

When they drew nigh to Vesta,
They vaulted down amain,
And washed their horses in the well
That springs by Vesta's fane.

Dionysius of Halicarnassus tells how two horsemen appeared to the Dictator Postumius at Lake Regillus, inspiring the faltering spirits of his army, and winning the victory for the Roman side; then before the glorious news could reach the city, the twin horsemen were seen in the Forum, watering their horses at the spring "near the shrine of Vesta," ἥ παρὰ τὸ ἱερὸν τῆς ἑστίας. [*Dion. Hal.* VI. 13, 2].

The religious association of the twin gods with Juturna is confirmed by Valerius Maximus and by Plutarch, in their accounts of a similar incident in the Macedonian War, when two horsemen appeared in the Roman Forum, watering their horses "ad lacum Iuturnæ," to quote from Valerius Maximus; κατ' ἀγορὰν πρὸ τῆς κρήνης, in the words of Plutarch. [*Val. Max.* I. 8, 1; *Plut., Aem. Paul.* 25. 2, *Coriol.* 3. 4]. Florus also mentions the "lacus Iuturnæ" in connection with the same story. [*Flor.* I. 28].

Furthermore, a coin of Aulus Postumius Albinus, dated 89 B.C., commemorating the distinction which the family of Postumius won in the Battle of Lake Regillus, bears upon one side the figures of the Dioscuri leaning on their spears, and beside them the two horses drinking at the fountain, which is represented here as a small round basin. [*Babelon, Mon. de la Rép. rom.*, vol. 2, pp. 378 seq.].

The myth is somewhat confused with historical fact; yet this much is clear, that there was a fountain of Juturna in the Forum, very near the temple of the Dioscuri, and that the two were closely connected, not only in their location, but likewise in the religious beliefs with which they were associated.

In the earlier stages of the development of the myth of Juturna, the divinity seems to have been simply a nymph who presided over healing water.

with little or no personal history. A characterization of her is made by Servius, in his commentary on Virgil: "Iuturna fons est in Italia saluberrimus iuxta Numicum fluvium, cui nomen a iuvando est inditum . . . . de hoc autem fonte Romam ad omnia sacrificia aqua adferri consueverat; bene ergo Vergilius Turno fingit sororem, quae laborantes iuvare consuevit; —The spring of Juturna, near the river Numicus, is the most health-giving in Italy; her name is derived from the verb iuvare; from this spring, moreover, it was customary to bring water to Rome for all sacrifices; with good reason, therefore, Virgil makes Iuturna, who is wont to relieve suffering, the sister of Turnus." [*Serv., Comm. in Aen.* XII. 139].

Out of this simple embodiment in the nymph of the beneficent power of a goddess, from whose sacred spring water was carried to Rome for sacrifice, there grew up a legend involving the human attributes of love and jealousy, which developed in the poems of the Augustan Age. Ovid tells how Jupiter, infatuated by love for Juturna, called the nymphs together and trying to enlist them in his favor, bade them stop her as she fled from him along the banks of the river. The nymphs agreed to obey his command, but Lara, a nymph who "could not hold her tongue," warned Juturna to flee the river banks, and then reported Jove's love for the maiden to Juno. For this treachery Jupiter took from Lara the gift of speech, but to Juturna, in compensation for her suffering, he gave power over all springs and pools. [*Ovid, Fasti.* II. 583-616].

The same myth is found in the XII Book of the *Æneid*, but with some enlargement, for Virgil, as we have seen, makes Juturna the sister of the Rutulian hero Turnus. At the bidding of Juno she comes to the aid of her brother in his war with Æneas, assuming the guise of a warrior; and taking the place of the charioteer, she leads the Rutuli on to action, until she is recognized by Turnus. Finally Jupiter sends a Fury to warn Juturna that the Trojans must win and her brother be slain. In moving and pathetic words she declares that without her brother the immortality with which Jupiter has endowed her is of no value—and thus she leaves the scene of action to hide herself in the deep waters. [*Virg., Aen.* XII. 139 f].

This warlike and powerful goddess, with her love and grief for her human brother, is quite another being from the simple nymph whom the earlier Romans worshiped in spring and fountain.

Still another relationship is mentioned by Arnobius, for he makes Juturna the wife of Janus: "Ianum . . . . Ianiculi oppidi conditorem patrem Fonti, Vulturni generem, Iuturnæ maritum,—Janus . . . . the founder of the citadel on the Janiculum, the father of Fontus, son-in-law of Vulturnus, and husband of Juturna." [*Arnobius*, III. 29].

The Juturnalia, which Servius mentions in his commentary (Nam et Iuturnas ferias celebrant qui artificium exercent, quem diem festum Iuturnalia dicunt:—"Now those who work at trades celebrate the festival of Juturna, which they call the Juturnalia"), is also referred to by Ovid. It was the annual festival of Juturna, which took place on the 11 of January, when the goddess of health, Carmenta, was also worshiped. [*Ser. Comm. in Aen.* XII. 139; *Ovid, Fast.* I. 461 f; *Preller, Röm. Myth.* II. p. 128].

That the fountain structure of which remains are still to be seen in the Forum was not the only monument erected to Juturna, is conjectured from other references in the Latin literature. Servius makes the statement that Lutatius Catulus dedicated to her a temple in the Campus Martius, at a time of drouth. [*Serv. Comm. in Aen.* XII. 139]. The conclusions as to

the existence and location of the temple are based largely upon a passage in Ovid, from which it is thought that its site must have been near the terminus of the Aqua Virgo, directly back of the modern Piazza di Spagna. [*Ovid, Fast.* I. 463; *Aust, De Æd. Sacris*, p. 45]. The association of Juturna with the ancient traditions of the Latins, as in the Æneid, and the growth of her cult in the early worship of Rome, point to a regard for the nymph not only among the Romans, but throughout Latium. The reference in Servius's Commentary, already quoted, to "the most health-giving spring in Italy" is not to the fountain in the Roman Forum, but a spring near Lavinium and the river Numicus, the sacred stream of Latium. This spring, with the sacredness of early association, was probably the first water to which Juturna's name was given.

The exact location of this spring is difficult to determine. Nibby says that there was in his time (the XVIII Century) a dried-up lake among the Alban Hills, which went by the name of Giuturna or of Turno. [*Nibby, Viag. nei cont.* II. p. 138]. Westphal definitely locates the pool of Juturna at the foot of the Alban Hills, on the road to Porto d' Anzio and Nettuno, though he calls in question the antiquity of the name. [*Westphal, Rom. Kamp.* pp. 13, 26, 37].

The various aspects of this charming legend have each a significance in a consideration of the remains in the Forum. The Romans of the Empire gathered about the spring a group of monuments of the elaborate design which characterized the period—and it is the remains of these later structures which to-day mark the place of Juturna's worship. The situation is familiar from its proximity to the 3 columns of the Temple of Castor, at the foot of the Palatine Hill, between the Temple and the House of the Vestals.

A full discussion of the remains cannot be attempted in this article: an accurate and detailed description is given in the *Notizie degli Scavi di Antichità* for February, 1901; from which the article by Signor Boni on Juturna has been reprinted under the title *Il Sacrario di Iuturna.*

The sacred precinct was connected with the Palatine by an inclined ramp, built with two parallel supporting walls, the arches of which were left open in such a way as to form, with intersecting walls, a number of small chambers, and a short corridor at the end. The largest of these chambers, about 18 feet square, has a well-preserved pavement in opus spicatum, blocks laid in rows to represent ears of grain; this earlier pavement, however is in part covered by another of large square bricks. In the eastern wall of this same chamber may be seen a rectangular niche, below which a statue was found lying on its face. The figure is known by its attributes of a staff and a serpent, as well as by a boy at its left, who holds in his hand a cock for sacrifice, to be the Greek god of medicine, Æsculapius.

The original supporting walls of the inclined ramp were much cut into and altered; the result being a confusion of walls, arches and chambers, the purpose of which it is difficult to determine. The discovery of the statue of Æsculapius, however, suggests that these chambers were a sanctuary of this divinity, whose worship was introduced into Rome at an early date [*Livy*, X. 47, 7; XXIX. 11]; and that the sick were brought here to spend the night sleeping under the spell of the god, as in the temple at Epidaurus.

In the floor of the corridor at the end of the ramp, is a pavement in red and white mosaic, with figures in black, representing a water scene: a boat in which sits the rower, with one oar, a sea-bird, a fish, and several points of a star. The interpretation is obvious; the divinity of the water is symbol-

ized in these pictorial scenes, and her connection with the Dioscuri is suggested by their recognized symbol, the star.

The relation of these chambers to the ramp, as well as the orientation of the whole area, may be seen in a fragment of the Forma Urbis, the "marble plan" of Rome, which dates from the time of Septimius Severus and Caracalla. The ramp is represented with stairs at its end, which are now destroyed; the adjoining rooms and corridor are in general those of the remains. The fountain appears here as a square basin, with 2 openings in the floor, and steps leading to the bottom. This is the center of interest in the worship of Juturna, the fountain over the spot where the spring gushes from the earth. The marble basin was found almost intact, and filled with a mass of water-jars, vases and pieces of sculpture.

The basin is sunk below the level of the ground, a large and nearly square hole cut in the earth, measuring 17 by 16 feet, and 7 feet deep; inclosed on the 4 sides with a wall of tufa rock, in the construction known as opus reticulatum. The lower part of this inclosing wall projects on 3 sides, forming a ledge 4 feet in width, about half way between the top and the bottom of the basin. The wall on the east side has no projection, but supports an arch built of brick, and above this a brick wall, only a part of which stands unbroken. It is evident that this eastern wall served to separate the fountain from the chamber on its other side, the one previously mentioned, in which the statue of Æsculapius was found. [See Fig. 2].

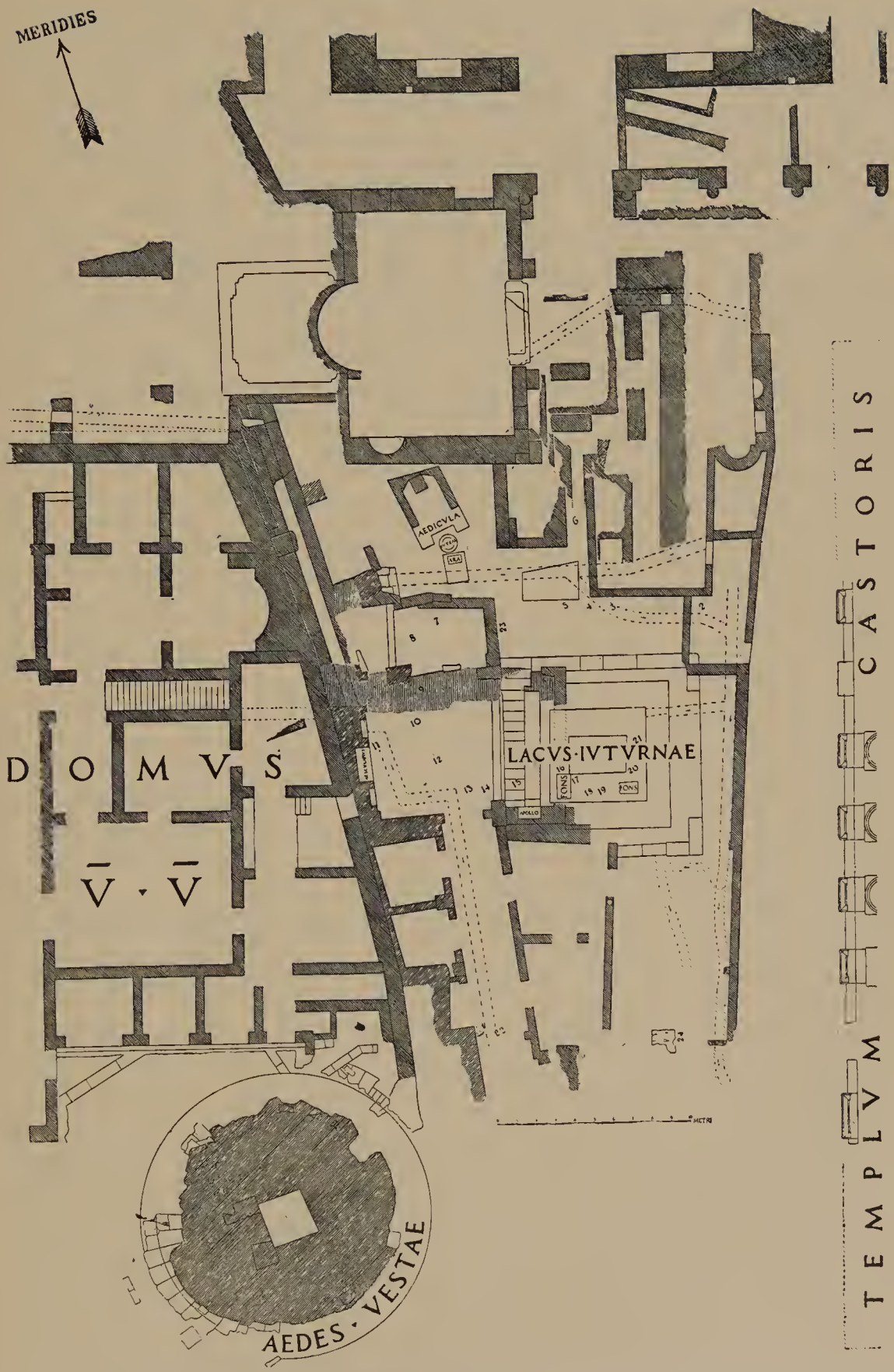
On the southwest corner of the basin, above the ledge, a block of tufa juts out from the wall, probably the remains of the upper steps of the 3 which are represented in the marble plan.

For the purpose of receiving the water as it springs from the ground, 2 rectangular holes were cut in the floor of the basin, one in each corner of the north side. They are lined throughout with travertine, making solid receptacles not easily affected by the water. Signor Boni, in a careful examination of the ground through which the water courses, has found immediately below the tufa foundation of the basin two strata of clay, the upper lighter and more compact than the lower; below this a layer of yellowish gravel, through which the water filters. It reaches the openings in the basin of the fountain at a point 36 feet above sea level.

The center of the floor of the basin is occupied by a large rectangular platform, with a wide step extending around 3 sides, but not on the east. The construction of this platform, like that of the basin, is opus reticulatum.

The surface of the platform, as well as of the floor and walls of the basin, was entirely covered with white marble in large slabs, which were held in position by a layer of mortar between them and the foundation of tufa. As only a few of these slabs are missing, it has been possible to restore the marble fountain, and to give it somewhat of its ancient beauty, when filled with the water from the spring, which flows pure and clear as in ancient days.

In the mass of earth and fragments that accumulated over the fountain in the Middle Ages, some pieces of statuary were discovered which have been identified as belonging to a group of the Dioscuri. These fragments, of different qualities of marble, seem to belong to a restoration of a Greek original of the V Century, a group consisting of the nude figures of the twin gods, with their horses, a well-known representation of the Dioscuri. The group probably stood on the platform in the center of the marble basin. In the days of its ancient glory this must have been a monument not




PLAN OF THE FOUNTAIN OF JUTURNA SHOWING ITS RELATION TO THE TEMPLE OF VESTA, THE HOUSE OF THE VESTALS AND THE TEMPLE OF CASTOR AND POLLUX [FIG. 1]

unworthy of its surroundings; the deep basin lined with the pure white marble, and filled with the water of peculiarly sacred memory, and rising from its center the figures of the divine horsemen; a beautiful and noble representation of the divine spirit of helpfulness as symbolized in the legend of Juturna and the Dioscuri. [See Fig. 3].

A monument of scarcely less interest than the marble fountain is the shrine that stands at a short distance from its southeast corner toward the Palatine. This small structure resembles the shrines that one sees to-day on some of the country roads in Italy. The cella is inclosed on 3 sides by walls of brick, which, though badly broken, still retain a part of their plaster covering. A marble door sill marks the entrance to the cella, and inside, against the brick wall, stands a block of brick masonry, perhaps the pedestal of a statue of the goddess Juturna. In this simple structure we find the plan of a diminutive temple, the reconstruction of which is made possible by the discovery of certain fragments that have been identified as belonging to it: an Attic base of a column, various pieces of the shaft, a composite capital, several pieces of the architrave and frieze, and a part of the tympanum, carved in delicate moldings. A fragment of the frieze is of special interest, in that it bears upon its smooth front in letters of bronze: IVTVRNA (i) S(acrum); a dedication of the shrine to the divinity of the spring.

Directly in front of the shrine stands a hollow cylinder of white marble used as the mouth of a well; it is about 3 feet high and in a perfect state of preservation. The smooth surface of the marble bears on the front this inscription, in letters of the first century of our era: [See Fig. 3].

M·BARBATIVS·POLLIO
AED·CVR
IVTVRNAI·SACRVM·REST
PVTEAL

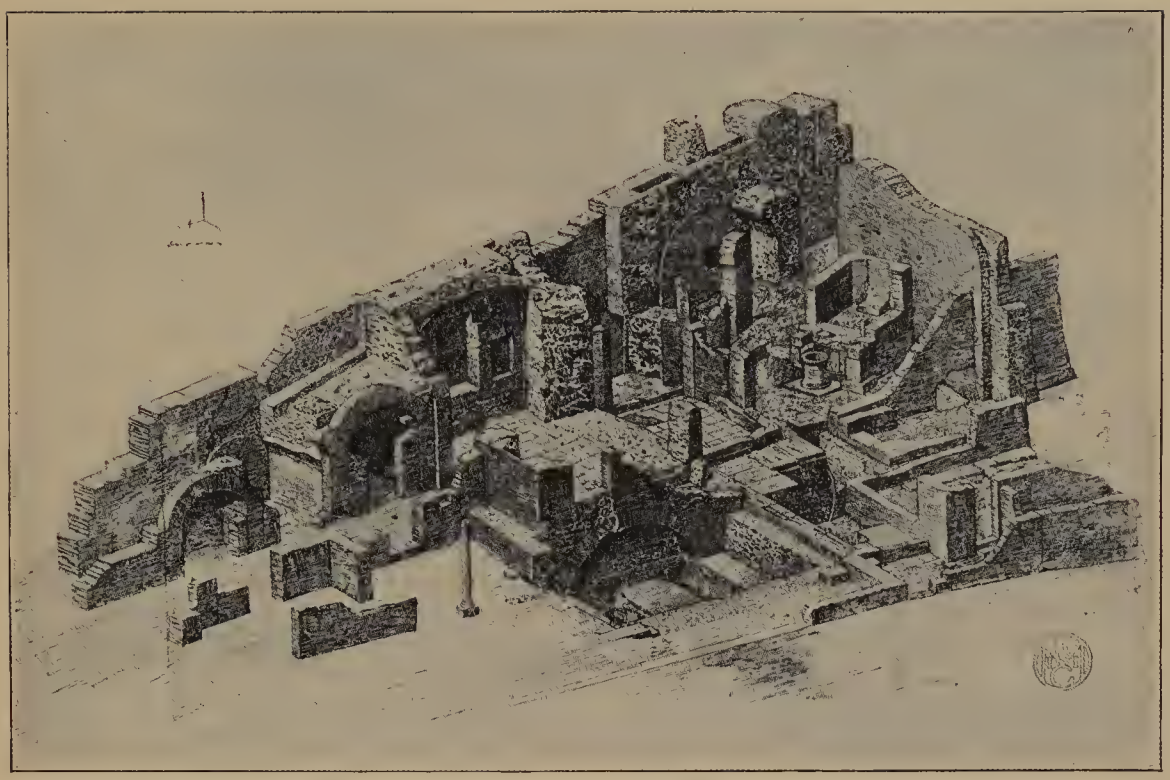
"Marcus Barbatius Pollio, curule ædile, restored this *puteal*, sacred to Juturna."

The words are carved also on the top of the puteal, on the upper surface of the rim, repeated exactly, with the exception of the word PVTEAL.

The meaning of the word puteal, "the mouth of a well," would sufficiently indicate the purpose of the marble cylinder, and when one stoops over its edge and looks into the depths of the well, he sees even now the water from the same spring that has filled it for centuries.

The method of drawing water may be conjectured from 6 small vertical furrows on the inner margin of the top of the puteal. As in the case of primitive wells of modern times, a pail was fastened to the end of a rope and let down into the well. While the drawer of the water pulled at the other end of the rope, the weight of the pail would necessarily bring a strain upon it and gradually wear depressions in the inner edge of the marble.

For the convenience of those who wished to draw water, a block of roughly cut marble was placed in front of the puteal, on the same side on which the holes appear, making a step by which they could easily reach over the top.



FOUNTAIN OF JUTURNA—PERSPECTIVE ELEVATION OF THE REMAINS [FIG. 2]

*Photo. by Prof. Karl P. Harrington*

FOUNTAIN OF JUTURNA—ALTAR, PUTEAL AND FOUNDATION OF SHRINE [FIG. 3]

The source of supply for the well is the marble-lined basin, with which it is connected by an underground lead pipe. The water then, coming originally from the sacred spring of Juturna, was undoubtedly held to be quite as efficacious as that of the fountain.

It is probable that the water of both well and fountain was devoted in imperial times chiefly to religious purposes. A consideration of the close proximity of the fountain to two of the oldest and most sacred of the Roman temples, as well as of the mythical beliefs connected with this particular spring, leads to the conclusion that people drew the water for carrying to the sick, as well as for use in sacrifice or in the rites of expiation. In earlier times, however, the water was probably put to secular use; for Frontinus says of the method of obtaining water before the days of aqueducts, that for 441 years after the foundation of the city, the Romans were content to use the water which they drew from the Tiber, the pools and fountains. [*Front. De Aquæ Ductibus* 4].

Another evidence of the sacred character of the well is found in an altar which was set up in front of the puteal, on the marble step, which served as a base. That the altar dates from the III or IV Century after Christ is evident from the character of its workmanship; and the scene that is depicted on its face clearly belongs to the later development of the legend. Two figures are represented, one of a woman, wearing the simple robe of a Roman matron, holding in her left hand a scepter, and raising her right arm in an attitude of address to a man who stands before her. He is in the garb of a warrior, with helmet and spear. The scene represents the story that Virgil tells of Juturna, of her farewell to her brother Turnus. The sculpture is of the inferior quality of the decadent period; yet the figure of Juturna expresses a dignified sorrow which suggests the pathos of the farewell in the lines of the poet.

In the mass of débris that accumulated over the fountain of Juturna and the well were found a large number of wine jars (amphoræ), some whole, others in fragments, vases and lamps of terra-cotta, many glass fragments, parts of vases and of bottles and various objects in bronze and iron. Among these numerous fragments one might expect to find indications of votive offerings similar to those from the spring at Lago Bracciano. Yet the objects discovered here are utensils for some practical purpose, those used for carrying water for the sacrifice or to the sick or for furnishing light at the well if it were necessary to draw water at night; and not such as were ordinarily offered in gratitude for a cure. [See Fig. 4].

One altar was evidently devoted exclusively to the service of Juturna; another, and larger one, which was found lying on its side in the basin of the fountain, has to do with the story of the Dioscuri. The altar is an oblong block of marble, with a border in a leaf pattern, and a figure in relief on each of the four sides. On one of the smaller faces, the figure of Jupiter stands, in the dignified attitude of the ruler of the heavens, resting upon his left foot, a long scepter in his right hand. It may be Jupiter as the lover who vainly sought Juturna that is here represented; yet the majestic attitude of the figure suggests the ruler of gods and arbiter of human fate rather than the man with human passions; and the other figures on the altar are more directly related to the Dioscuri than to Juturna. On the opposite side appears the figure of a woman, who is recognized by the swan at her feet, as Leda, the mother of the Dioscuri. The peculiar twirl of her drapery in

JUPITER

DIANA LUCIFERA

THE DIOSCURI

LEDA

FOUNTAIN—LARGE ALTAR WITH RELIEFS [FIG. 4]

a semicircle above her head seems to have been designed to fill in the space, rather than as a characterization of Leda.

The third figure is also a woman, wearing a flowing robe and holding in her hands a long torch; the relief is recognized as the type of Diana Lucifera often seen on Roman coins. The introduction of the goddess of woods and brooks, who promotes health and protects virgins, would be natural in the worship of Juturna. A statue of Diana was found in the fountain, which is identified by the symbols on her breast as the goddess of the Ephesians. Yet the connection of the relief with the Dioscuri leads some critics to interpret the figure as Helen, the sister of the twin gods. [*Deubner, Neue Jahr.*, vol. 10, 1902, p. 379; *Atene e Roma*, 1902, p. 523].

The figures in the relief on the fourth side, exactly alike in attitude and dress, are the twin brothers; a typical representation of the Dioscuri, with the pointed caps, the long staves, upon which each rests his arm, the single garment thrown carelessly over the shoulder and a star above each figure. Only the horses are wanting to complete the picture of the Dioscuri as they rested at the spring after the battle. These, as helpers of men, were associated with the goddess of the healing spring in the legend; likewise they were worshiped, not only in the adjoining temple, but at the fountain itself, as shown by this altar on which are represented the divinities most closely connected with the story of the twin gods.

While the question of the date of these remains cannot be discussed here, yet a word on the subject may be of interest. The foundation walls are built largely in opus reticulatum, the method of laying tufa blocks that belonged to the early empire. Among the examples of this construction there is a considerable variety; for instance, the foundation wall of the shrine is of the I Century, while that of the rectangular platform in the basin of the fountain is of a different character. [*Boni, Il Sac. di Iut.* pp. 71 and 84]. Again, the wall of one of the rooms adjoining the fountain is of the age of Hadrian, unlike the opus reticulatum last mentioned [ibid. pp. 64 and 84]. To give one example from the inscriptions, the lettering on the top and sides of the puteal belongs to the I Century of the Empire [ibid. p. 76]. In general it may be said that the remains are of the imperial time, yet restorations of a much earlier construction. For in the lower part of the walls of the basin, also in a part of the walls of the adjoining chambers, the construction is opus incertum [see Fig. 4], belonging to the Republican Era [ibid. pp. 81 and 62].

In the Middle Ages the spring of Juturna seems to have sunk into oblivion; in the X Century the spot was believed to have been the site of the Lacus Curtius, and went by the name of Infernus. The people of this superstitious age believed that here Saint Sylvester killed a dragon, as stated by the Mirabilia, the guidebook for pilgrims. [*Mirabilia Romæ*, 22]. Thus the spot, which to the ancient Romans symbolized the most beneficent services of divinity in behalf of men, came to be regarded in the Middle Ages as a place of darkness and dread. The holy man who slew the dragon was said to have built on the spot a church, which sometimes bore his name, San Silvestro in Lacu, but which he dedicated to Santa Maria Liberatrice, with the prayer—libera nos a poenis inferni. [*Gregorovius; Hist. of Rome in the Middle Ages*, III. p. 22 and note; p. 544].

The beauty and extent of the remains in the Forum prove beyond a doubt that the worship of Juturna held an important place in the religion of the Romans. The worship must have been largely of a practical nature.

having to do with the cure of sickness and not purely religious devotion. Yet we may believe that the people felt the beauty of the legend, as they expressed in stone and marble their appreciation of the divine qualities which appeal to people of every age.

## EXCAVATION OF THE RUINS OF BABYLON

### PART III

IN January, 1900, the excavating in the "eastern extension" had progressed far enough to reveal the ground plan and the workmen began clearing out the interior and laying bare the clay-brick wall surrounding the whole building. The courtyard, in which there is a well, is surrounded by the rooms. The south side of the court is marked out from the rest by a special perpendicular ornamentation of its wall and by two towerlike pillars projecting from both sides of the main entrance. This door leads to the main entrance A, B, D, E. The floor in the court and in the rooms was composed of brick pavement. Upon this lay an artificial deposit, about 2 m. high, and on this again brick pavement. Underneath the upper pavement, mainly in the compartments F, K, a number of tablets were found, in all about 50 pieces, which contain lists of names and payrolls of workmen. The lists are dated according to the days, months and years of the reign of Nebuchadrezzar and Evil-Merodach. In the lists of Nebuchadrezzar the building is called the "Temple of Nin-mach" and in those of Evil-Merodach "Temple of Belit-ilani." Accordingly one can also with safety refer the well-known building cylinders to this temple. Here is written: "E-nach, the temple of Nin-mach, in the center of Babylon have I newly erected to Nin-mach, the princess, the sublime one, in Babylon. I had it surrounded by a mighty *kisu* of naphtha and bricks, with piles of earth . . . . cleaned, I filled the inner part of it." The *kisu* doubtless refers to the brick wall surrounding the building. The laborers which are registered on our tablets worked on the filling in of this mass of earth. Two fragments of similar small building cylinders have been found in the excavation; on one appears the name of Nin-mach and on the other that of Nebuchadrezzar.

I had a deep excavation made in the Compartment E, as D was presumably the main compartment, and E the adytum. Here was found beneath the lower pavement, in the filling material, a broken but extremely finely inscribed clay tablet, and on both the front and rear sides, in 2 columns, a hymn in the Sumerian language, with interlinear Babylonian translation; in all it contained about 180 lines of writing, of which, however, much is damaged.

When the excavation of the compartment had reached a depth of 10 m. below the level of the hill, a fairly large, well-preserved cylinder, carefully inscribed in Assyrian, was found, on which Sardanapalus recounts that he has newly built the Temple for Nin-mach in Babylon. Around the cylinder lay 12 tablets, besides a small terra cotta fragment. The latter shows the lower part of a naked female figure, facing to the front, upon a stele-form background; another terra cotta, almost identical, except that in style it was better finished, was also found in Compartment K. Undoubtedly we see in this presentation a copy of the old cult picture of Nin-mach. A number of

relief bricks—parts of the bodies of steers and birds—were found in the ruin.

The following is Dr. Meissner's translation of the Inscription of the Sardanapalus Cylinder:

Asurbanipal, the great king, the mighty king, the king over all, the king of Assyria, the king of the four quarters of the earth, the king of kings, the prince without equal, who rules the upper sea down to the lower sea, and who brought to his feet the whole of the minor kings; the son of Esarhaddon, the great king, the mighty king, the king over all, the king of Assyria, the ruler of Babel, the king of Sumer and Akkad, the grandson of Sennacherib, the mighty king, the king over all, the king of Assyria, am I.

The edifice of E-saglia, which my father, my progenitor, had not completed, the offerings of E-saglia and those for the godhead of Babel I established, and the foundations (?) of Babel I strengthened.

In order that the strong may not harm the weak, I, Šamaš-šum-ukin, have entrusted my twin (?) brother[1] with the royal dominion over Babel.

During the same period I have caused to be reconstructed Emach, the temple of the goddess Nin-mach in the midst of Babel.[2] In all eternity, Oh sublime Nin-mach, look down compassionately upon my pious deeds, daily before Bel and Belit pronounce thou my prosperity, a life of many days prescribe as my fate, like as heaven and earth establish thou firmly my government. But with reference to Šamaš-šum-ukin the king of Babel, my twin (?) brother, may his days be of long duration, and may he satisfy himself with offerings!

Whosoever shall from malice erase my signature or the name of my twin (?) brother, or destroy my inscription, or change its location, let his doom be pronounced by Nin-mach before Bel and Belit, and may his name and his seed be exterminated in all lands!

In the territory to the east of the palace I think the "Hanging Gardens" were located. This will doubtless amaze many because all who have been interested in Babylon have differed in their opinions regarding the location of this "Wonder of the world." The east canal and the small canal, which traverse this territory, incline me to this belief.

Gardens are certainly not unusual in connection with ancient palaces; here, however, an immense mass of wall had to be used to attain the necessary height in order to reach the level of the palace, or yet to overlook it, and just this fact was doubtless the reason for the importance of the locality. However, the excavation will throw more definite light on the question.

Everywhere in the excavation I notice the obscure older building and older rubbish. Isolated discoveries of the time of Nebuchadrezzar—such as the Hittite Stele are at hand. But wherever we dig—we have even gone down as far as 3 m. below the surface of the Euphrates—are found Nebuchadrezzar bricks, but nowhere even a trace of older buildings. In the Istar temple alone would it be possible to attribute the lowest portions to Sardanapalus, but in the filling-in, alongside of the Sardanapalus Cylinder, tablets of Nebuchadrezzar are lying. I have especially noticed the fact that older rubbish has never been used for these immense fillings, but either masonry of broken Nebuchadrezzar bricks or sand, clay, etc. Still it is possible that older buildings may yet come to light—perhaps in the south—however, it is not likely that they can be very important.

I am becoming more and more convinced that the Kasr is a complex, new building of Nebuchadrezzar and his father, and that the long line of rulers resided elsewhere within the limits of the City. In this connection

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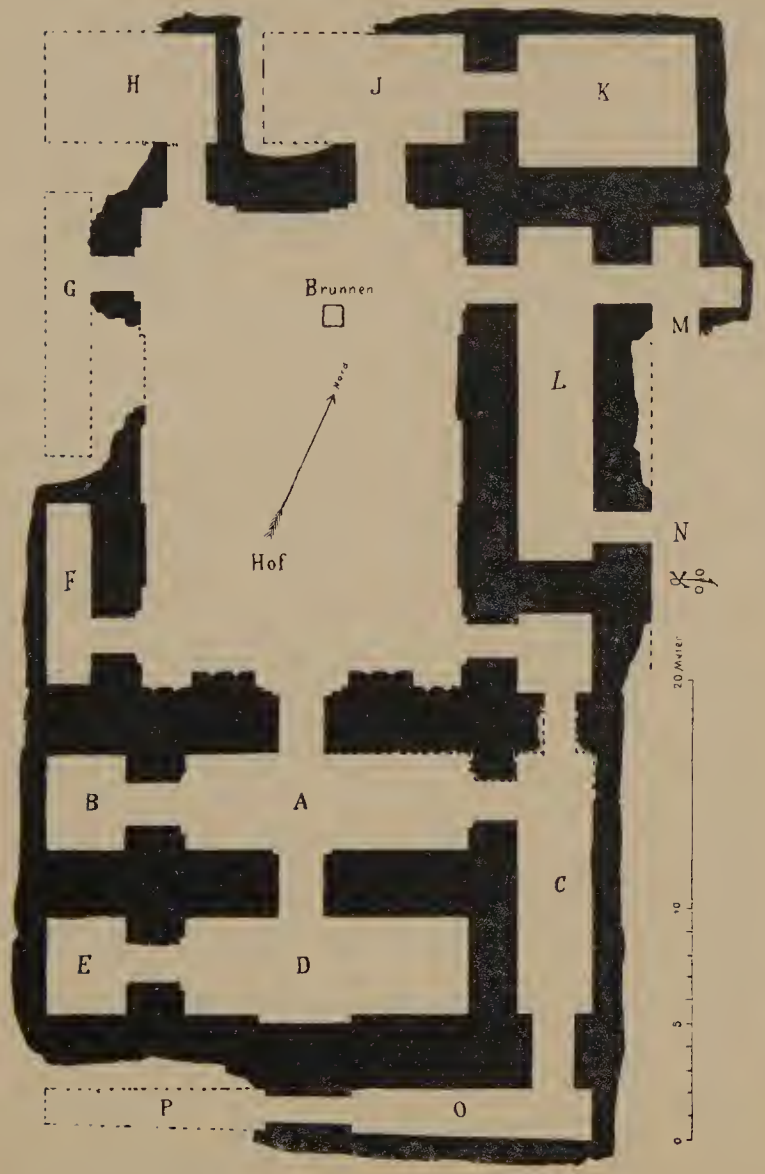
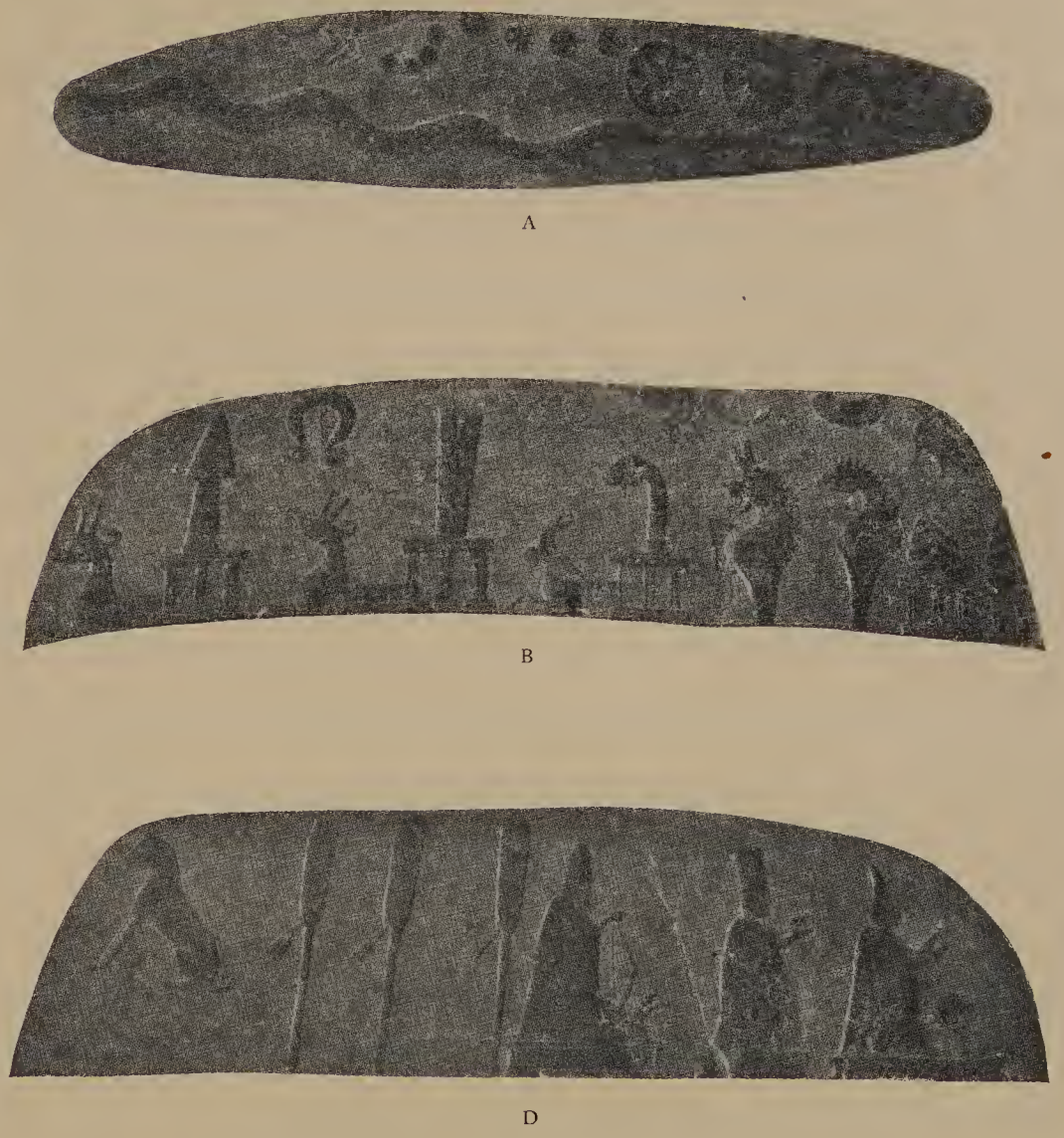
[1]Dr. Meissner: my full (?) brother. "Twin brother seems better."—F. D.

[2]Perhaps more correctly: "The center of Babel"?—F. D.




PLAN OF THE TEMPLE OF E-MACH




EMBELLISHMENTS ON THE DEED OF INVESTMENT

only Amran-ibn Ali needs to be considered. The remaining hills are, in my opinion, too low, and apparently have not the characteristic uniformity and extent of surface; on the other hand, Amran is high, massive and of greater expanse than it was possible to recognize before Andræ's plan. It is true that on the top lies a large layer of graves, partly very late; but what lies below we do not know. For this reason I would like to soon start work on this hill, and within a wider circumference than I had previously intended. It will be necessary to go down a considerable depth, in addition to clearing off a large mass of non-productive matter.

### THE DEED OF INVESTMENT OF A NEBO PRIEST AT BORSIPPA

Through the gift of one of its members, Mr. James Simon, the Deutsche Orient Gesellschaft, in February, 1900, came into the possession of an extremely valuable Babylonian literary monument. It is a strong convex tablet of hard black stone, 15½ cm. broad, 22 cm. long and at its central point 7 cm. thick. The tablet proves to be the artistically embellished deed of investment of a Nebo priest in the temple of Ezida at Borsippa, and is dated from the 12 Sivan of the 8 year of Nabu-Šum-iškuns, King of Babylon (probably about 750 B.C.). The inscription contains altogether just 100 lines, of which 21 and 22 are in two columns or the front side, 26 and 24 in the two columns or the rear side, whilst the 7 final lines are arranged in 2 columns on the right side margin.

The contents, partly verbatim, partly abbreviated, are as follows:

The goddess Nana, the sublime queen, the greatest of the godheads, the strong, the goddess of the goddesses, the highest of queens, who grants prayers, accepts supplications, the wife of Nebo, whose utterance is unchangeable, her command unbending, who like unto a compassionate father turns (toward one); and the god Aë, the strong, powerful one, who goes in front of her, who has the supervision over the temple, establishes the revenues—with their gracious countenances they gazed upon Nabumutakkil, son of Aplu-etir, and led him into the most holy place of Nebo, of Borsippa, and gave to him for his own, daily so and so much meal and wine, beef and mutton, fishes, birds, vegetables, etc., of all the revenue of the Temple of Ezida, as much as there was, they gave him a part, according to the decision of the priests, and that the appointment might not be questioned, they sealed the same and handed it to him for all time.

Whosoever in the future may be king, or king's son, a mighty one or doctor of the law, or judge or minister or priest or any other person whosoever may arise and carry on the government in the land, and shall alter or call in question the command of Nana and Aë, him shall Nana and Aë personally bring to judgment.

Then there follows the list of dignitaries who took part in the sealing up of the appointment. In the first place appears Nabu-Šum-imbi, son of Aplu-etir, Governor of Borsippa; in the second, Nabu-etir, son of Ardi-Ea, priest of Nebo, administrator of the sacred objects (a kind of minister of ecclesiastical affairs); furthermore, 8 other Nebo priests, among whom 2 are designated as "Sons of Aplu-etir," 1 Adad-Priest ("Son of Aplu-etir"), 3 Nana priests, 1 priest of the god Aë, 1 priest of the goddess Sutiti; furthermore, 2 secretaries and finally the priestly temple notary Nabu-le'u.

At the close, after the signature, which reads: "Borsippa, 12 Sivan, 8 year of Nabu-Šum-iškuns, king of Babylon, stone tablet of Nana and Aë, not to be contested," follows an exhortation and a curse:

Whosoever shall in the future be king or his mighty ones, whoever shall arise and shall rule, let him forever fear the word of Nana and Aë, and tremble!

Whosoever shall destroy this stone tablet with a stone, burn it in the fire, bury it in the dust, throw it into the water, take it into a dark house, where one cannot see, or shall erase the name written there and write in his own, his posterity, as many as shall have found a place on this stone tablet, may the gods annihilate!

The last remark refers to the many pictorial representations which have been placed, with marvelous delicacy of execution at the head of the tablet, *i.e.*, on the narrow upper edges (a), on the front side above Col. I and II (b), as also on the adjoining right side edge as well as on the rear side above Col. IV and III (d).

One point may here be emphasized, *i.e.*, that the first signer of the tablet in question: Nabu-Šum-imbi, son of Aplu-etir, is the same person of whom we possess the interesting record, kept in the British Museum Rm. III, 105, and with which Hugo Winckler dealt in his essay *"Eine Urkunde aus der babylonischen Kleinstaaterei"* [see *Altorientalishe Forschungen* III, 1895, S. 254 ff.].

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# EDITORIAL NOTES

**AFRICA:**—ALGERIA: George Babington Mitchell in an article on *The Berbers*, published in the *Journal of the African Society*, states that the Barbary States are very rich in megalithic remains, and describes the following:

All over Algeria, but especially in the province of Constantine, are scattered assemblages of rude stones, dolmens, cromlechs, excavations in the rock. Between Constantine and Guelma there are found—at Bou-Nouara, a megalithic necropolis containing monuments of many varieties, the general type being a dolmen composed of 4 vertical blocks, and a table forming a rectangular chamber, the whole surrounded by a circle of stones; at Roknia, the necropolis covers a space of 4 or 5 miles, the dolmens being usually of the same form, and placed 4 or 5 together in one general enclosure. At Bou-Merzoug, near Constantine, over an immense extent of hill and valley, not less than 8 miles in length, are found almost every known type of megalithic monuments. At Kheneg, also near Constantine, are 3 dolmens with enclosures of rough blocks of irregular shapes. In the Aures Mountains on Jebel-Kharuba, and Jebel-Bou Driecen are great numbers of highly curious remains, consisting not only of the ordinary type of dolmen, but of circular tombs of a much more unusual construction. Near Er Rebaa, on the road from Batna to Khenchela, is also a megalithic village. Near Ain-Taxa (the ancient Tigisis) under the Jebel Fortas I saw remains containing dolmens, cromlechs, menhirs, etc. This site, however, seems to have been adapted to later uses by the Romans, a bronze coin of Domitian having been found in one. Near Algiers in the Wadi Beni Messous are about a dozen megalithic monuments still entire, and a considerable number in a less perfect state of preservation. These consist of dolmens—large tabular stones, supported on four upright ones. Several interesting objects have been found in those that have been opened, such as bones, pottery, bronze ornaments, etc., which may be seen at the rooms of the Société de Climatologie at Algiers. At Djelfa, about 200 miles due south of Algiers, is another very large necropolis of the same kind near Teniet-el-Ahad, in a district called Sersou, about 50 miles southwest of Algiers, are numerous prehistoric remains containing a considerable number of interesting objects belonging to the ancient races who have inhabited the country. According to M. Jules Liorel [*Kabylie de la Djurdjura*, p. 96] the skeletons found were doubled up, the head almost always turned toward the north. The glass beads, coarse pottery and

bronze ornaments may be mostly very ancient, but some are contemporary with the Roman period.

The megalithic remains found in Tunis are interesting as being undoubtedly connected with the early Libyans. A considerable area around Mactar, near the western center of the Regency, is covered with dolmens and covered alleys. On the plateau of Hammada-Kesra and in the olive plantations below the village are dolmens and chambers—one at least of remarkable size. At Ellez, between Mactar and Kef, is a necropolis of great extent consisting of menhirs, dolmens and covered alleys which are said to resemble exactly those of Brittany and other parts of Europe. In one of them was found a rude clay lamp resembling somewhat the shape of the earliest 'Punic' lamps. It was near these buildings, in the neighborhood of Mactar, that many Libyan inscriptions were found. Several of these are now in the museum at the Bardo near Tunis. Of these 2 are bilingual—one Libyan and Neo-Punic, and another Libyan and Latin, surmounted by a rough bas-relief.

Any series of megalithic structures in the northwest of Tunis, between Souk-el-Arba and Bulla Regia, examined and described by Dr. Carton consists of stone circles, lines and tables under which human remains were found buried, accompanied by rude pottery resembling early 'Punic' feeding-bottles, bowls, etc. The skulls are said to be of the 'Cro-Magnon' type. There are also two broad cuttings into the hill, in the sides of which are dug out caves. In the neighboring 'Jebel-el-Aïrsh,' the modern burial places show that there still survive among the natives traces of the habits of their forefathers.

In Tripoli, the extensive and most interesting sites of Tarhuna and Gharian have been described, with a map and illustrations, by Barth in his *Travels and Discoveries in North and Central Africa,* Vol. 1, and by Von Bary, in the *Revue d'Ethnographie,* Vol. II, p. 426, Paris, 1883. But the latest and fullest description, with photographic views, is that of Mr. H. S. Cowper, F.S.A., in the *Scottish Geographic Magazine* for January, 1896. Mr. Cowper found several indications of phallic worship in these remains—a view which seems also to be suggested by the form of the towers of the Wahhabi Mosques of Jerba to the present day. He says, 'What we find more or less ruined, at every Senam, are the following: first, a great rectangular enclosure of magnificent masonry, but seldom preserved to any height. Generally the enclosed space is divided at intervals by lines of short square columns, which in a few instances carry rudely-designed but well-worked capitals. Second, the Senams proper. These on tall megalithic structures, trilithonic in shape, with jambs and capstones, but the jambs are frequently constructed of more than one stone, and they are always placed at intervals close to or in line with the enclosure walls. As a rule, the side facing the enclosure is carefully dressed, while the other side is left rough, and in the jambs are always square perforations apparently formed with a view to support some sort of wooden structure. The Senams vary from 6 to 15 feet in height, and are erected on carefully prepared footing-stones. They were not doorways, for the passage between the jambs averages but 16½ inches, and they were in some way connected with ritual, for often, right before them, we find a massive altar flush with the ground. The Romans adopted and used these sides, and apparently preserved the Senams. Of this there is abundant evidence, and a few phallic sculptures which were found, all showing Roman influence, may possibly point to the form of rites the Romans found in use here. The trilithons in themselves look older than the masonry of the enclosures. But I venture to say it is only the idea—the traditional idea of the worship of great stones—that necessitated the erection of these strange monuments by builders who were masters of the art of masonry. It is, however, most remarkable that in the Mediterranean countries no distinct analogy can be traced between any other groups of megaliths and those on the 'high places' of Tarhuna. Indeed, neither in the Algerian dolmens, in the Maltese Temples, nor among the taulas and talayots of Minorca can we find much of anything which seems to elucidate the mystery. Strange

as it may seem, it is none the less the fact that the only monuments now standing which parallel at all the Senams of Tarhuna are the great trilithons of Salisbury Plain. The key to Stonehenge may perhaps be found in the Senams of Tripoli, but who is to find the key to the Senams?'

In Cyrenaica, Hamilton describes some structures peculiar to the Cyrenaica. They consist of circles 5 or 6 feet high, surrounding a sarcophagus. Most of them are very dilapidated, but one is in perfect condition. "It is formed of 3 layers of good masonry, making a square platform, on which the sarcophagus is placed, with a circle inscribed in the square of the base, formed by a ring of stones placed edgewise in juxtaposition, no cement remaining between them. Their dimensions are about 5 by 3 feet."

Mr. Michell thinks that the so-called "Punic" tombs, recently unearthed at Carthage, Susa, Gabesand and other places in Tunis owe their peculiar forms to some Libyan influence. Although no Libyan inscriptions have been found in Carthage, there are many references to the goddess "Tanit." This is a Berber name and Mr. Michell considers that it is a "clue to some prehistoric African cult which existed in Punic times and which . . . . indicates a Lybyan element in the population of Carthage which would doubtless affect Punic burial customs."

**EUROPE:**—BRITAIN: Mr. F. Haverfield in a recent issue of the London *Athenæum* sums up the discoveries of Roman remains which have been found in Britain during 1902, as follows:

The discovery of Roman remains in Britain in 1902 were fewer than those of 1901. Excavations were discontinued at Silchester, Caerwent and Hadrian's Wall; and the Scottish Antiquaries, having completed Inchtuthill, dug up Castlecary. The results were uneven in value; the field of excavations was not enlarged by new undertakings and the list of interesting chance discoveries is short. More important results were won at Castlecary on the Wall of Pius. Here, as has long been recognized, is the site of a fort measuring some 350 by 450 feet (not quite 4 acres in extent), and commanding an extensive prospect northward. Its remains have been cruelly damaged by road and railway and no less cruelly robbed by later buildings; but the excavators have traced the ramparts, ditches and gates, and several buildings. The ramparts were built in part, if not wholly, of masonry—and, indeed, of excellent masonry—with large well-dressed blocks which far surpass the ordinary stonework of Hadrian's Wall. The substructures of the north rampart, which overhang a steep slope, are specially noteworthy in this respect, though the rampart which they supported is gone. Inside the fort is a buttressed storehouse, part of a bath, a latrine, and vestiges (it seems) of a prætorium and of other buildings were recovered, but the interior (unlike the forts of Hadrian's Wall) was apparently occupied only in part by stone structures. Few minor objects of importance were found, though a pit (or well) yielded numerous old boots. East of the fort was an annex such as we can trace in other forts on the Wall of Pius. No traces of rebuilding or of different periods of occupation were discovered, and everything points to the fort having been occupied only once, namely, while the wall was held in the II Century. At Camelon and at Inchtuthill, previously excavated by the same antiquaries, there were some hints of Agricola. At Castlecary we have before us (it seems) only the work of Pius. Whatever the forts were which, as Tacitus says, Agricola built from Forth to Clyde, Castlecary was apparently not one of them.

Other noteworthy finds have been few. "Villas" have been opened—not all for the first time—at Edfield, Weymouth, St. Cross near Winchester, Fifehead Neville near Sherborne, and perhaps in Greenwich Park—though the character of this last is uncertain. Discoveries also have been made at Castor, near Peter-

borough, but no details published. At Merthyr-Tydfil, near South Wales, a hypocaust and other remains are waiting exploration, and may possibly belong to a fort on the road from Gellygaer to Brecon.

ITALY:—It may be remembered that an important extension of the excavations in the Forum was made possible by the liberality of Mr. Lionel Phillips, who defrayed the cost of buying up some houses standing on the site of the Basilica Æmilia. Arrangements have been made for further work in consequence of an open-air demonstration, given by Mr. St. Clair Braddeley at the Forum on April 8, in which he dealt with the interesting results obtained from these excavations. These have proved, he explained, that the building was of far larger extent than the archæologists of any school had conjectured. In consequence of this the excavations have only enabled half of its site to be laid bare, the remainder being still encumbered by 3 houses of considerable height with their gardens. The Government has reserved to itself the right of expropriating their owners, but the cost of doing so is estimated at 4,000 *l.* ($800.) Mr. Lionel Phillips thereupon offered to place this further sum at Mr. Braddeley's disposal for the completion of the work, and the Italian Government, we understand, has consented to avail itself of this offer. Between the basement of these houses and the ground level of the Basilica there is a depth of 26 feet of soil, which appears to contain the débris of structures. In addition to the importance of possessing accurate measurements of the building itself, the further excavation will make it possible for the first time, to come into intimate touch with the Forum Nervæ, and will display the full grandeur of the Temple of Faustina and Antoninus.

**NORTH AMERICA:**—UNITED STATES: Our valuable representative and contributor, Mr. Ellsworth Huntington, has recently been awarded the Gill Memorial by the Royal Geographical Society of London for his physiographic researches in the canyon of the Euphrates River. Mr. Huntington, in company with a party under the direction of Mr. Raphael Pumpelly, are at present exploring in Russian Turkestan, especially in the basin of the Aral Sea. They will search for remnants of the ancient civilization which once flourished there, and investigate the climatic changes which have taken place with a view to determining what has been the potent cause of the decline of this region. The party consists of Mr. Raphael Pumpelly, his son, Mr. R. W. Pumpelly, Prof. W. Davis of Harvard, Prof. Richard Norton, Director of the American School of Classical Studies at Rome, and Mr. Ellsworth Huntington. We shall await with interest the return of this expedition, the archæological results of which Mr. Huntington will furnish us on his return:—The skeleton of a Mammoth, which is perfect, is reported as having been found at Nome, Alaska, imbedded in a gravel bank on the Hanum River. If this proves to be as reported, it will be the first complete Mammoth skeleton which has been found in North America, although a great many more or less complete ones have been found scattered over the United States as far south as Texas. In Siberia, which was probably the original center from which the Mammoth migrated, there have been found a large number of fine specimens, one which was imbedded in the ice being in a perfect state of preservation.

# RECORDS OF THE PAST

VOLUME II JULY, 1903 PART VII

Volume II

# RECORDS OF THE PAST

Part VII

REV. HENRY MASON BAUM, D.C.L.
Editor

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MR. FREDERICK BENNETT WRIGHT
Assistant Editor

JULY, 1903

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## Expedition to the Ruins of the Southwest

The Editor of RECORDS OF THE PAST proposes to conduct an expedition to the Southwest during August, leaving Denver on Sept. 30. The official members of the expedition will include a geologist, anthropologist and archæologist and two assistants. The points to be visited will embrace the Cliff and Pueblo Ruins of Southwestern Colorado and the great extinct volcano Mt. Capulin and the surrounding lava beds; in Northern New Mexico, the Modern Pueblo Village at Taos, Pueblo Ruins at Ojo Calienti and Cavate and Pueblo Ruins near Espanola, in the Rio Grande Valley; the Zuni Pueblo Indians, the great Lava Beds southeast of them and the Pueblo Ruins in Chaco Canyon. In Arizona, the Grand Canyon of the Colorado; the Moki Indians, reaching Walpi in time to attend the Snake Dance; the Canyons de Chelly and del Muerto, and other interesting historical and geological localities.

There will be an opportunity for five additional members to join the expedition. Terms and conditions will be furnished upon application to the Editor of RECORDS OF THE PAST.

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ROCK SCULPTURES AT NAHR-EL-KELB, SHALMANESER II AND RAMESES II

# RECORDS OF THE PAST

VOL. II PART VII

JULY, 1903

## ROCK SCULPTURES AT NAHR-EL-KELB

BY MRS. GHOSU-EL-HOWIE

ABOUT 7 miles from Beyrout, the Berytus of Roman times, one comes after a drive of an hour and a half round the picturesque bay of St. George, through mulberry plantations, orange groves, etc., to a steep promontory round the base of which in modern times a carriage road has been cut and more recently still (within the last 8 years) a railroad takes the tourist in three-quarters of an hour, from Beyrout to one of the most interesting historic localities and scenes in Syria.

The Nahr-el-Kelb or Dog River, rushing like a mad dog with a gurgling sound, through a narrow gorge in a deep cleft of the mountains, here throws itself into the sea. I once thought that the river probably derived its name from its rushing, foaming, turbulent conduct and discounted the idea that it was derived from the worship of a dog idol; but I am now convinced that there is a good foundation of truth in the tradition which tells that in the long past ages a monster of the wolf species was chained by some god or demon at the river's mouth which, when lashed to fury by the storms awoke the echoes of far-distant Cyprus with his bark. Another story is that the statue of a dog formerly stood on the pedestal that crowns the cliff, its mouth being wide open, strange sounds were made to issue from it, when the winds were high; these the Arabs long regarded as supernatural warnings of impending woe, but at length on one occasion they mustered courage, assembled in a body and hurled the monster into the sea. Ac-

quainted with these stories I purposely questioned the rude inhabitants of the place to see if this local tradition was still known and remembered. On interviewing an old shepherd passing with his sheep, I elicited the story substantially as above with the difference that "its bark could be heard in Damascus" and that "a gypsy woman by her incantations caused it to roll off its pedestal into the sea." Henry Maundrell, the traveler, writing in 1697 says:

> In an hour or more spent upon a very rugged way close by the sea, we came to the river Lycus, called also sometimes Canis, and by the Turks at this day Nahr Kelb. It derives its name from an idol in the form of a dog or wolf which was worshipped and is said to have pronounced oracles at this place. The image is pretended to be shown to strangers, lying in the sea with its heels upward. I mean the body of it for its oracular head is reported to have been broken off and carried to Venice, where, if fame be true, it may be seen at this day.

Naturally in my recent visit to Nahr-el-Kelb (April 3 to 5, 1903) I took special pains to have the dog pointed out to me and like H. Rider Haggard, I can say: "lying prone in the shallow water I myself saw his gigantic headless shape, large as that of an ox or a horse." Nevertheless it is not the sight of that seaweed-covered (perhaps after all) natural rock (that to give color to a local tradition is very conveniently pointed out as the dog), which convinces me that the story has a substantial basis, but a consideration of the name *Lycus*, the name by which the river was known to the Greeks.

Who or what was this Lykos?

I learn that "the modern name of Assiout (Egypt) is a modification of the ancient name of the city Siant Lycopolis. The god of the city was Anûpu, Anubis or Apuat, the opener of the way "represented by a jackal or by a human form with a jackal's head. He was one of the chief gods of Amenti, the land of departed souls, the god of the embalmers and the guardian of tombs; he is sometimes called the chief of the mountains" [*The Land of the Monuments*, Pollard, p. 191], "Lycopolis is of Greek derivation meaning 'the city of the wolf.' The animal worshipped here was, however, not the wolf but the jackal, the representative of Anûpu or Anubis."

Now, it will very naturally occur to one to ask: Why is it that a recognized Egyptian deity should be worshipped in Syria and give its name to a local stream?

This question was answered satisfactorily, to my mind, when, a few days after my visit to Nahr-el-Kelb I was calling on the venerable M. Julius Loytved, Ex. Danish Consul in Beyrout, who showed me among other precious objects in his private collection of antiquities (which it is hoped may be secured by some American Museum) a small terra cotta head of Anubis, a figure of Osiris and a stele containing the image and cartouche of Shishak [960 B.C.]. The relics had been obtained from Jebail [Gebal *Josh.* XIII. 5; Ez. XXVII. 9.] an important town in antiquity on the Phœnician coast, within sight of and only a few miles from Nahr-el-Kelb.

It is interesting to observe that these objects help to confirm certain theories of the learned which connect the rites of Osiris with Byblos (Gebal). [See especially Lucian *De Dea Syria* c. 6. seq.] Among other curious particulars he informs us that some of the people of Byblos, at the foot of Lebanon, where the mysteries of Adonis were celebrated every year and into which Lucian was himself initiated, were of the opinion that those

INSCRIBED TABLET OF SULTAN SELIM IN MULBERRY TERRACE AT NAHR-EL-KELB. [FROM PHOTOGRAPH BY MRS. GHOSU-EL-HOWIE.]

ceremonies had been really instituted for Osiris and that he was buried in their country, not in Egypt.

Brugsch also in *Die Adonisklage und das Linoslied* agrees in tracing the Adonis myth to Asia [p. 27] and in identifying Adonis and Osiris [p. 31].

The Osiris myth relates that Isis wandered to and fro disconsolately in search of her husband's coffin and of the child of Nephthys and Osiris which had been put away as soon as it was born through fear of Typhon. "This she found after great trouble by the guidance of a dog who afterwards became her champion and attendant with the name Anubis. . . . She now ascertained that the chest had been floated as far as Byblos (in Phœnicia) and cast ashore. . . . Isis guided, as they say by a divine monster came to Byblos" [*Christ and other Masters*, p. 463].

In the discovery of Mr. Loytved's terra cotta Anubis we have proof that at some remote period the worship of Egyptian deities was practiced in Gebal and this fact makes it highly probable that the services of the faithful Anubis to the disconsolate Isis would be recognized and commemorated near the scene of fulfillment and no better place could certainly have been chosen than this rugged promontory, directly opposite "The sea of the West," "The sea of the setting Sun," the passage to the dim region of the underworld. "As the 'opener of the road' it was the duty of Anubis to guide the boat of the Sun through the underworld during the hours of darkness." When all these circumstances in connection with the dog Anubis are brought to mind the appropriateness of erecting an image of this particular divinity, in this particular spot will be manifest and taken in connection with the Osirian myth and the nearness of Gebal, I no longer see any incongruity

in the tradition and most firmly believe that an image of the dog Anubis (called Lykos by the Greeks) was erected in this spot and gave its name to the river which was known to the Romans as Lycus Flumen. The name still survives on a tablet engraved on a bowlder, close to the old Roman road which wound round the Cape. The inscription is as follows:

IMP CAES M. AVRELIVS
ANTONINVS PIVS FELIX AVGVSTVS
PART. MAX. BRIT. MAX. GERM. MAXIMVS.
PONTIFEX MAXIMVS
MONTIBVS IMINENTIBVS
LICO FLVMINI CAESIS VIAM DELATAVIT
PER
ANTONINIANAM SVAM

[*Robinson's Biblical Researches*, p. 618]

telling us that the "Imperator Cæsar Marcus Aurelius Antoninus Pius, the illustrious August I, Parthicus, Britannicus and Germanicus, the High Priest [of Rome] opened this road. The mountains overhanging the river Lycus, having been cut away to make it."

The tablet dates from a little before the year 180 A.D. A few feet from it toward the mouth of the gorge there used to be another tablet, which I saw 6 years ago (now unfortunately blasted) bearing a shorter inscription, the prayer of the same pious Roman for his Royal Master. It ran thus "Unconquered Imperator, Anto-Ninus Pius, illustrious August I, reign for many years."

The Dog River near its mouth is crossed by 3 bridges. The railway bridge, a fine modern three-arched stone bridge and near the gorge an ancient bridge, a very picturesque object.

In a mulberry terrace near the latter is a much-worn Arabic inscription 5 m. in length by 1½ m. high, consisting of 5 lines mentioning repairs said to have been made in the bridge by Sultan Selim, "conquérant de l'Egypte et de la Syrie" (conqueror of Egypt and Syria) (E. Ponjade) about 1517 A.D. [*Robinson's Biblical Researches*, p. 618.]

On the opposite side of the bridge (the north side) are 17 arches in the side of the mountain rock, the remains of an ancient aqueduct, two of these arches are completely concealed by the thick foliage which has grown up in front of them and all the rest are thickly draped with most luxuriant maiden hair and other ferns. The aqueduct still conveys water for irrigation purposes to the plain near the seaboard, after having passed through the grounds of a hotel, situated on the cliff above it and turned a flour mill near the new stone bridge. I mention these details because one of the most interesting of the tablets at Nahr-el-Kelb (The Babylonian) is connected with this aqueduct, inasmuch as it is situated below it, just behind the mill and the water trickling through its imperfect sides has been flowing over it for centuries.

The presence of this tablet is not generally known, for it is difficult of access in a private garden and entirely hidden by cane, cactus, banana and other tall plants.

Some travelers who simply heard about it have not located it properly for it is not "higher up in the crags" [*Holy Land and the Bible*], but on a level with the person regarding it from the low ground.

ANCIENT AQUEDUCT AT NAHR-EL-KELB. [FROM PHOTOGRAPH BY MRS. GHOSU-EL-HOWIE.]

ROMAN INSCRIPTION AT NAHR-EL-KELB. [FROM PHOTOGRAPH BY MRS. GHOSU-EL-HOWIE.]

This tablet was discovered by Mr. Julius Loytved about 20 years ago "when they were repairing the aqueduct" and the squeeze (which he was kind enough to take out of its case for my inspection) together with a photograph of it were submitted to Prof. Sayce of Oxford and through M. F. Lenormant to the Academie des Inscriptions et Belles Lettres, Paris.

I am indebted to Mr. Loytved for a copy of the "lecture" made by M. Lenormant before the Academie and reported by G. Schlumberger, from which I make the following extracts:

PARIS, February 11, 1882.

I have the honor to present to the Academy, on the part of Mr. Julius Loytved (?) of Beyrout, prints of new cuneiform inscriptions which have recently been discovered on the rocks of the north river of Nahr-el-Kelb . . . lastly these photographs which include 4 great columns. As soon as the eye falls on the prints and photographs, it is easy to recognize that one is in the presence of a document in Babylonian writing assuming the exact archaic type which is employed for the most part in the inscriptions of Nebuchadrezzar. And in fact the name of this king followed by a part of his customary titles is read with certainty in the inscription, on the print and in the photograph.

The new stele discovered at Nahr-el-Kelb thus adds another name, a name famous par excellence, that of the terrible vanquisher of Jerusalem and of Tyre, to the list of Egyptian and Assyrian conquerors, who at the passage of this river, in the neighborhood of Beyrout, have left triumphal monuments to conserve the memory of their expeditions.

The finding of a monument of this kind emanating from Nebuchadrezzar, in Phœnicia is for science truly an event. It is the first epigraphic evidence of the great wars of this king whose conquests hold such an important place in the books of the Bible, for one knows that by a singular phenomenon, all the inscriptions hitherto known of Nebuchadrezzar (except a small fragment of his annals conserved on a tablet in the British Museum) boast pompously of the great constructions which he raised in honor of the gods, but are absolutely mute on his wars and victories.

. . . There is at least one column which treats entirely of works of architecture which seem to be designated as if situated in the neighborhood of the town of Sippara, nevertheless I discern in the course of the text some fragments of phrases which appear to belong to an account of an expedition.

On making inquiry as to the whereabouts of this tablet I was informed that: "it could not be seen," "that it was overgrown," "that it was under a waterfall," etc., and so many difficulties were put in my way that I foresaw I must make a very special effort, if I were successfully to accomplish one of the main objects of my visit. Accordingly I hired a man to stop the leakage in the aqueduct and arming him with a coarse broom and pail, had the tablet brushed and cleared from the silt which completely covered it and which by filling in all the crevices of the boldly cut cuneiform characters, had helped doubtless to preserve it so well through so many centuries.

Part of the inscription had apparently been engraved on a soft, thin, superficial, marblelike stone, coating the limestone rock. The upper part has entirely flaked off, but I photographed the fragment that remains in case the characters should come out legibly and possibly reveal some important name.

The principal tablets, however, those about which most has been written, are to be found in the cliffs on the south side of the river, on the ancient road cut obliquely round the promontory long anterior to the Roman Road which skirts the base. They are now 9 in number, 3 Egyptian and 6 As-

syrian. Formerly there must have been more, but the 3 Greek ones spoken of by Mr. Pierce [*Palestine Exploration Fund,* 1873] seem to be almost entirely obliterated. One of the latter I found and was able to make out in the first line the characters TTETT ꝗNIN-NOYA and a few odd letters in some of the 11 or 12 lines which I believed the inscription contained. I pointed these out to the Russian Consul General of Beyrout, who also was unable to make out some of them; this was about 2 hours before sunset. In the early hours of the day not a trace was visible, for I had visited them early in the forenoon to ascertain this fact.

The most natural order in which to visit these monuments is to begin with the group of three, opposite the khan on the Roman (the modern carriage) road just before commencing the ascent of the promontory, toward Beyrout. These three are all square-headed. The first originally Egyptian had been made by Rameses II, but was effaced by the French army of occupation of 1860, coated with a thick layer of stucco, on which the names of Napoleon III and some of his officers may be read. Fortunately this tablet, as well as the other two Egyptian ones, had been examined and reported upon by Dr. Lipsius in 1842 [*Dank* III, 197].

Maspero [*Hist-Ancienne des peuples de l'orient-classique*] remarks that "Rameses arrived at Nahr-el-Kelb which marked the northern border of the empire where he engraved at the turning of the route on the rocks overhanging the mouth, some triumphant stelas on which he recounted his successes."

A few feet from the Egypto-French tablet two much-worn panels bear the almost totally effaced effigies of Assyrian royal personages, they have been described as "low and equal in shape." Twenty years ago they must have been very much more distinct than they are at present, for W. St. Chad Boscawen [*Trans. Soc. Bib. Arch.,* Vol. VII, 1882, pp. 331-352] compares them with a representation (on stone in the British Museum) of Merodach-Nadin-akhi, an early Babylonian king, 1100 B.C. (a contemporary of Tiglath-Pileser I) to which he says they bear "a marked resemblance in workmanship and the disproportionate treatment of the human figure."

I do not think that anyone would be able to make a comparison now. The second figure is almost entirely gone, only a portion of the head and shoulders remains and in a few years it will not be apparent that a human figure was ever sculptured on this tablet.

"One of these tablets," says Mr. Boscawen, "must, I think, be assigned to Tylath Pileser I, who, after subjugating the Khatte, visited western Lebanon to obtain cedar wood to decorate the temples and palaces of Assur or Calah Shergat." In his inscriptions this boaster claims the title of conqueror of the land from the Sea of the Setting Sun to the sources of the Tigris, at which latter place it is known that he erected a statue of himself. Maspero thinks that, the sight of the tablet close by (made by Rameses II three centuries before, at Nahr-el-Kelb) stirred emulation in his breast and caused him to place his image by the side of the great Egyptian whose warlike feats he had imitated.

It is interesting to note this king's connection with Mt. Lebanon, it is recorded that "during his journey through the Lebanon forests and mountains, he slew 120 lions and many other animals." He cared also for the well-being of his people, recut an important canal and erected various

buildings from one of the towers from which "were obtained 3 cylinders which record the principal events of 5 years of his reign." [See Budge.]

With regard to the second of this pair of Assyrian tablets, it is difficult in our present paucity of early Assyrian records to tell to which king of the early empire it is to be assigned. From its position close alongside the other tablet, it is certainly the work of a near relation, and we are therefore at liberty to assign No. I to the father of Tiglath-Pileser I, that it is to Assur-ris-ilim, or by assigning No. I to Tiglath-Pileser, No. II becomes the record of Assur-bel-Kala his son. [Boscawen, Transactions of the Society of Biblical Archæology, Vol. 7, 1882, p. 338.]

Leaving these tablets the ascent is made over the promontory and at a distance of a few yards he sees above him, a little to the left, in a corner as it were, a single round-headed tablet; this has been thought to represent Assur-nazir-pal [885-860 B.C.], the father of Shalmaneser II [860-825], who also erected a tablet here, a little higher up the road. There are distinct records in the Assyrian inscriptions of the erection of both of these tablets. That by Assur-nazir-pal was to record the accomplishment of his great campaign in 880 B.C., when he finished a victorious march through Syria by receiving tribute from Arvad, Gebal, Sidon and Tyre. He states that he erected an image of his majesty over against the Great Sea and offered victims and libations to his gods.

The Bronze gates found at Balawât are said to give a faithful representation of such dedicatory rites as would be observed before each of these tablets.

They erected an altar before it on which they celebrated the sacrifice and if the monument was raised toward the source of a river or on the shore of a sea, the soldiers threw pieces of the victim into the water in order to propitiate the water gods. [Maspero.]

With such knowledge furnished by recent discoveries, this silent pass becomes crowded again with "Captains and rulers clothed most gorgeously, horsemen riding upon horses, all of them desirable young men . . . girded with girdles upon their loins exceeding in dyed attire upon their heads. . . . With chariots, wagons and wheels, buckler, shield and helmet" [*Ezekiel* XXIII 12, 15, 24] and one can see the priests in grand sacerdotal robes swinging the censor and soldiers pitching portions of the reeking victims into the hungry sea to propitiate Oarmes.

Leaving Assur-nazir-pal alone in his glory, one comes, after a short climb, to an immense bowlder on which two of the most interesting and best preserved monuments are to be found. The first of the two (the fifth of the series) resembles the one we have just left, inasmuch as it is round-headed and contains the effigy of an Assyrian king, but the latter is more distinct. This is Shalmaneser II, who in his first expedition marched to the shores of the Sea of the West, accounts of which are to be found on the Black Obelisk and on the tablet from Kurkh. Mention is made of the erection at two periods of statues of this monarch in the regions of Syria and Mt. Lebanon.

A fragment of an inscription of this king referring to the XVIII Campaign B.C. 841, states that after a successful expedition against the Syrian kings headed by Hazæl, king of Damascus, and the reception of the tribute from Jehu, son of Omri, etc., a statue of the king was erected in or near Lebanon, where he (like Tiglath-Pileser I) had gone to obtain cedars on the

mountains of Bahli-Rasi. This Phœnician sounding name is no doubt Baal Rosh, the promontory at Nahr-el-Kelb.

About a foot from the Assyrian is the second Egyptian tablet (the 6 in the series) dedicated, as Dr. Lepsius states, to the sun-god Ra.

I agree with Boscawen that this is "by far the best preserved, and most certainly there are traces of its having borne hieroglyphic inscriptions"; but in the figures in the upper portion I fail to see Rameses II standing in adoration before a seated deity.

I see 2 figures *standing* facing one another, they are warriors, the one to the left seems to be bending the bow, ready to let fly the arrow, while the second figure advances his right arm and appears ready to raise the shield which he holds in his left hand.

Dr. Robinson who visited the pass in 1852 states [Researches p. 620] "In the corners of the three Egyptian tablets there are holes as for metal clamps, as if a metal plate or marble tablet perhaps with sculptures or an inscription had been fastened within the border, covering the interior surface. In that case the rock surface of these three tablets was never sculptured."

Naturally, I looked particularly for these holes and found that it was even so; under the moulding, drilled upward in either corner at the top of the tablet were holes, into which one could insert a rod as thick as a man's finger, but I did not see traces of holes at the bottom of the tablet, if such were originally there, they may easily have worn away. I cannot, however, accept Dr. Robinson's conclusion that "in that case the rock surface of these three tablets was never sculptured," for it seems to me that the hieroglyphics are still so distinct that one can even count the lines (on the tablet itself and in the photo) which I make out to be 20 in number.

Dr. Boscawen says [1881] "I must certainly affirm that I could distinctly trace indications of the body of the tablet as well as the jambs having been covered with hieroglyphics. . . . On the lower tier of the cornice of No. 6 (the one under consideration) the winged circle was distinctly to be traced and the feathering on the upper portion."

I also with Dr. Boscawen readily distinguished the winged circle and fluted ornamentation in the upper part of the cornice as well as the figures and hieroglyphs. Dr. Robinson, however, writes "I must confess that for myself, on neither of my visits March 3 and June 19, although both were made at midday, under a brilliant sun, could I distinguish either hieroglyphics or other figures. It may be possible, however, that with the Sun in another direction and with a different condition of light and shade and less of glare, such outlines can be traced; but then how are the clamps at the corners to be accounted for? At any rate I cannot but think that fancy has much to do in making out the reputed copies of these Egyptian tablets."

Dr. Robinson does well to tell us at what season and hour he visited these sculptures for both are important to observe if one would view them under the most favorable conditions and "midday," "under a brilliant sun" are of all conditions the least favorable as I can testify from repeated observations.

A photograph of this tablet made by Bonfils of Beyrout some years ago, brings out most excellent results, it was taken when the shadows were deepest. Although I am not able to say what month of the year is best for observations I do say that the position of the declining Sun (influenced

considerably by the season) does make a difference in rendering the figures more or less distinct. (From our position on the Lebanon we see the Sun in winter set apparently just opposite Beyrout, while in midsummer it sets just behind Cyprus, the outlines of whose hills are broken and rendered visible to us) and therefore the changing position of the Sun must affect the light and consequently to a certain degree the distinctness or indistinctness of these sculptures.

It was an examination of this photograph which led to my recent visit to the Dog River and inspired me with a desire to make a scientific examination of these monuments.

It appeared to me that the photograph designed by the artist merely to reproduce the two most picturesque "inscriptions on the Dog River" had quite undesignedly brought into recognition four hitherto unnoticed animal figures in the rough cliff to the right-hand side of the Egyptian tablet. This discovery on paper inspired me with a desire to verify the fact, if fact it were, and although the results were disappointing and I only recognized traces of the lowest figure and could not affirm positively that such animal figures ever were there, yet I think it very probable that animal figures (ancient, no doubt, in the time of Rameses) were sculptured on this bowlder and possibly shared with Anubis some sort of adoration, but are now worn away beyond recognition and we have only a suggestion of them revealed by the faithful art of photography.

I beg to accompany this article with a sketch of these animal figures, which I traced from the photograph itself (by means of transfer paper), and although I know that I run a risk of some future Robinson thinking that "fancy has had much to do in making out the reputed copies" I disclaim any imagination in the matter and venture to publish the above in case Archæological finds at Gebal or elsewhere should throw a side light on animal worship at Nahr-el-Kelb, when it may be interesting to remember that such animal forms were thought to have been recognized as late as 1903.

We next come to the round-headed Assyrian tablet thought to represent Sennacherib 703 B.C., which "belongs to the period of the best art." Although there is no record of its erection by Sennacherib (says Boscawen) "its resemblance to the Bavian tablets and the figures of the king from the Koujunjik sculptures would lead one to assign it to that king."

Sennacherib is said to have visited Southwestern Syria and Phœnicia at least 3 times in his reign [B.C. 702-3]. When he defeated the Palestine and Egyptian allies at the Battle of El-sekeh in the province of Dan, an account of which expedition is given in the Taylor cylinder.

Bible students are most interested in that expedition in which the siege of Lachish was a prominent feature and which terminated so disastrously [II Kings XIX, 35]. The effigy, therefore, of this king in the place seems to give greater reality to the Bible narrative and has many suggestions for those who can read "sermons in stones."

A few steps beyond brings us to the last two tablets. The Egyptian one is easily recognized by its resemblance to the other two square-headed ones which we have noticed. This one, said by Dr. Lepsius to have been a votive tablet to the Theban Ammon, was erected by Rameses II to commemorate his triumphant advances against the Hittites. It is very much dilapidated and neither lines, figures nor hieroglyphs can be recognized with certainty, but there are suggestions of a disk and fluted cornice as

ANIMAL FIGURES THOUGHT TO BE DISTINGUISHED ON ROCK NEAR TABLET OF RAMESES II. [FROM DRAWING BY MRS. GHOSU-EL-HOWIE.]

well as of hieroglyphs, a few of which in the lower part of the tablet to the right-hand side seemed to me sharp enough to produce an impression. I therefore mixed some dough and obtained casts of 2 birds, which measure 0.05 m. in height and are remarkably good.

The ninth and last tablet of this ancient road is a round-headed Assyrian one, on which the image of Esarhaddon, the third son of Sennacherib is represented [II *Kings* XIX, 37].

This has evidently been very elaborate and some details on the shoulder and breast are still distinguishable, he holds in his right hand a cone, pointing upward to some sacred emblems of the Sun and Moon, etc. A few seeds have found lodgment in the earth that has accumulated in the crevices of the cone during 2,574 years and Esarhaddon appears now to be carrying a bouquet, presenting a living tribute to the source of all light.

This tablet is (as doubtless all the other Assyrian tablets were) covered with cuneiform characters, many of which are still legible.

A plaster cast was made of it in 1834 by Mr. Bonomi and is now in the British Museum.

From paper impressions as well as a copy made by Dr. Boscawen and comparison with the cast in the Museum, it has been possible to obtain the date of its erection with an account of the expedition of which it was the triumphant record. Mention is made of an expedition against Tirhakah ending with the capture and sack of Memphis. After regulating the affairs of Egypt the Assyrian army returned laden with the rich spoils of the temples and palaces of Memphis. En route tribute was gathered from all the principal cities of Palestine and Phœnicia and possibly from Cyprus.

The fact that the statue at Nahr-el-Kelb commences with an enumeration of titles of the god Hea (Oarmes) the Assyrian Neptune, who is here called "Ilu Timse," the god of the sea, seems to indicate that the king had just accomplished a successful sea voyage. We may conclude that this special invocation here supposes an expedition to the land of Ya-at-na-na (Cyprus) to gather tribute.

From these facts we may conclude that this statue was erected in B.C. 671, to commemorate the successful termination of Esarhaddon's Egyptian Campaign. [Boscawen Trans. Soc. Arch. VIII, 1882, pp. 331-358.]

Few people who visit Nahr-el-Kelb are able to explore all the wonders of this remarkable stream or to trace it to its source.

I believe Dr. W. M. Thompson was the pioneer in this direction. He tells us that about 6 miles above the sea the river issues from a cave which cannot be explored without a boat. There are 3 caves all on the north side of the ravine.

Thompson's description [*The Land and the Book*], however, so inspired W. J. Maxwell, C.E., that in 1873 he got up a party, including Rev. D. Bliss, D.D., of the S. P. C. Beyrout and R. W. Brigstocke, M.R.C.S., and with all the necessary impedimenta, including rafts, boats, lamps, etc., they penetrated into the interior and made quite a survey, giving the names of "Thompson's Cavern," "The Pantheon," "Styx," "Chaos," "Hermit Gallery," "Maxwell's Pillar," "Bliss Straits," "Huxley and Brigstocke's Rapids," etc., to the prominent features in their underground travels.

The grottoes of the Nahr-el-Kelb, so far as they have been explored may be ranked among the already well-known caverns of the world and though not as

large as the Kentucky caves, possess features resembling those of that immense labyrinth. Though devoid of animal remains, they will bear comparison with any of the bone caves in the gorgeousness of their draperies and the grandeur of their stalactites. . . .

The distinctive feature of the Dog River caves is that the river itself has been followed ¾ of a mile underground [Jas. Robertson]. Above the caves the river may be traced through the most picturesque ravines up to its two sources under the snows of Mt. Sunnin. One of them Niba-el Lebban wells up under a rock, while the other, half an hour's walk from it, springs out of a cave, near which in past ages was a temple to Adonis. This was destroyed by Constantine.

A little below the Niba-el Lebban is a remarkable rock formation, known as the Natural Bridge, the arch of which is 90 ft. thick, the span 157 ft. and the height on the lower side nearly 200 ft.

Thus from its mouth to its source this classic little stream, so full of associations is bridged over by modern science and we are now able to make a connection with the traditions of the past and trace some of them also to their fountain head.

## THE BRONZE HERMES FROM ANTIKYTHERA

BY ARTHUR STODDARD COOLEY, PH.D.

IF the bottom of the Tiber should be dredged there is good reason to believe that many treasures of ancient art would be discovered buried in the mud of its bed. Some statues have been found in harbors, as at the Peiræus. But who would have believed a few years ago that a whole shipload of works of art in both marble and bronze would be recovered from the depths of the sea, and one of them a masterpiece rivaling the Hermes of Praxiteles? Yet such an event has recently startled the world and important additions have been made to our knowledge of Greek art.

Various articles have been published both in this country and abroad in regard to this find. My purpose here is to give to the readers of RECORDS OF THE PAST the official publication of the Greek Archæological Society, which has just appeared in their quarterly, the *Ephemeris Archaiologiké*, as far as it pertains to the story of the finding and recovery of the statues and the description of the chief treasure, a magnificent male statue in bronze of a little over life size. The various views of the statue are from photographs by A. Rhomaïdes, of Athens, made to illustrate this official report.

The official publication tells of the discovery as follows:—

About the end of 1900 Symæan divers fishing from the sponge-fishing boat 'Photios Lentiakós,' under Captain Demetrios E. Kontos, pulled up the well-preserved hand of a bronze statue off the north coast of Antikythera, the ancient Aigile (Cerigotto), near the place called to-day Pinakakia, about an hour distant from the river (whose mouth is) the principal mooring ground of the island. At this discovery the captain of the boat dived himself, and seeing in the place where the hand was found a heap of various ancient statues, he stopped fishing

for sponges and got under way for Syme (an island off the coast of Asia Minor, 15 miles N. W. of Rhodes), whence after consultation with other patriotic Symæans he came to Athens and communicated the find to the Greek Government, begging at the same time for official permission to go forward at his own expense to bring up the statues.

Although the communication was received at first with incredulity, which is easily understood, yet the Greek Government, through the Minister of Ecclesiastical Affairs gave the desired permission to Demetrios Kontos, promising to give him a worthy recompense for the finds at the end of the operations, and sent with him a special representative of the Archæological Department, as well as a small war vessel to aid as far as possible in the work of raising the antiquities.

The operations began about the middle of November, 1900, and continued till September, 1901, interrupted only for about a month at Easter, 1901. It is to be understood that because of the stormy sea in which the work was carried on the actual working days did not amount even to one-fourth of the time mentioned.

The investigation of the bottom was made by experienced sponge-fishers diving in the usual way, and the hauling up of the light objects was accomplished by the ordinary tackle used in sponge-fishing boats, while the heavier objects were raised by the windlass of the always-present war ship.

The place where the wrecked ship lay in the sea is about 80 feet from the shore and at a depth of from 25 to 40 fathoms. The ship, many of whose timbers the divers saw and some of which they brought up, if one may judge from these obscure indications, lies parallel to the shore and a part of it and its cargo apparently is covered by great rocks which have fallen from the headland.

The raising of the large objects visible in the water furnished no insuperable difficulties, but when the investigation of the mud, which had covered a great part of the objects, and the removal of the rocks, which had fallen upon them, began, the work became much more difficult, because on the one hand each of the divers could not work in so great a depth in the sea more than 7 or 8 minutes continuously, and on the other the mud had been compressed in many places and transformed with the things in it into a very hard, compact mass, broken up with difficulty by the tools which the divers could use.

On account of these difficulties one may say that the investigation of the bottom was not complete, and that other objects may yet be concealed under the mud. This can be conjectured also from the finding of numerous fragments of bronze statues which were not taken out. And yet with all this the result of the operations was successful beyond all expectation.

As a reward, 150,000 drachmas ($18,750), were given to the Symæans by the Greek Government and the Archæological Society gave each of those who took part in the work 500 drachmas ($62.50).

All the recovered objects were transferred to Athens and deposited in the National Museum. The find consists of marble and bronze statues and various things belonging to the ship and the service of the crew.

A detailed description with illustrations is given of the different statues, statuettes and other finds, from which I take this in regard to the bronze we are considering.

The statue of a nude young man standing erect. He treads firmly on the left foot and has his right leg bent at the knee slightly to the rear. His head looks intently toward the right, following the direction of the right arm, which is bent and raised to a point a little above the head of the youth and stretched toward the right with a certain emphasis. The position of the fingers of the right hand shows beyond question that the man held in this something exactly spherical. The left arm hangs inactive at the side, but the shape of the hand shows that through it passed an object at all events of some length, which the statue bore sloping downward. The expression of the face of the youth is rather gentle.

HEAD OF THE BRONZE HERMES FROM ANTIKYTHERA

As is usually the case in ancient bronze statues, the eyes are made of a different material; the iris is chestnut-colored and the apple of the eye white. The nipples also are set in, being made of separate pieces.

On some fingers of the right hand are small pieces of bronze by which the round object in them was held in place, and a small strip of bronze exists also on the little finger of the left hand, serving a like purpose. Its position, indeed, limiting the opening of the fingers of this hand at the back shows that the object held by them was thin, at least at this point.

On the right leg are many very small pieces of bronze, round and quadrangular, put on to cover up places where there were defects in the casting.

The surface of the statue was quite well preserved, but to avoid the danger of corrosion, and since on the head especially much oxide had formed, which had to be removed by chemicals, the whole statue was subjected to chemical cleaning on account of which the original color of the surface was altered.

The statue was broken into many fragments, but was put together by the restorer of works of art in Paris, M. André, called for this purpose to Athens by the Greek Government. There have been supplied by him a few pieces in the breast, abdomen and buttocks.

The height of the statue is 1.94 meters (= 6 ft., 4.4 in.); height of the head to the beginning of the hair above the forehead, 19 centimeters (8¾ in.); to the top of the hair, 235 millimeters (11⅛ in.).

The story of the restoration is hardly hinted at in this report, but it is worth giving in brief. The cleansing of the fragments and the preliminary work was done by Greeks at Athens, and there was some talk of entrusting the restoration to Mr. Kaloudes, who is quite expert, as anyone will admit who has seen in the Acropolis Museum at Athens the group of Athena subduing the Giants, formerly in the pediment of the old temple on the Acropolis which was burnt and damaged by the Persians in 480 B.C. This was put together by him from a great number of marble fragments discovered during the excavation of the citadel. But it is quite a different task to restore a bronze statue, and his skill was not considered equal to the undertaking. Aid was sought from Paris and other places. One proposition, strangely enough, came from Monstapha Bey, the best sculptor connected with the Imperial Museum at Constantinople.

Then at the request of the Greek Government Herr Wilhelm Sturm, the restorer of the archæological collections of the Imperial Palace at Vienna, who had won fame by his restoration of the bronze statue of an athlete found in many pieces at Ephesus, was given leave of absence to come to Athens in October, 1901, and give his expert opinion. This he did in a long report in which he described his method employed in the case of the bronze statue from Ephesus just mentioned, and which he would use on the bronze at Athens if given the contract to set it together. Because of the length of time this would require and because at Vienna he had all his tools and other facilities for the work, he urged the temporary removal of the statue to the Austrian capital. Even under the safeguards proposed by him this seemed to the Greek authorities a step not to be considered a moment. The precious statue must remain at Athens, and so negotiations with Herr Sturm came to an end, for he maintained that he could not do the work anywhere but in his own workshop at Vienna. Finally M. André was induced to come from Paris last year, and to his skill is due the most successful restoration evidenced by the views here given. The following description of his *modus operandi* I take from Mr. Edward Vicar's most interesting article in the *Pall Mall Magazine* for April, 1903 [pp. 551, et seq].

SIDE VIEW OF THE BRONZE HERMES FROM ANTIKYTHERA

He first constructed a sort of skeleton, on which he built up the statue, piece by piece, beginning with the lower extremities. Whenever two fragments required to be fastened together, the edges were joined by very powerful cement and the pieces riveted on to a frame work of copper bands, which supported and braced them from inside. When each of the fragments had been thus securely pieced together, each in its proper place, the missing parts had to be restored. These M. André had already fashioned in his Paris workshop from casts supplied, and they now only required to be fitted into the gaps. When the figure had at length been completely rebuilt and restored to M. André's satisfaction, he proceeded to cover the rivet heads with a kind of putty, and then treated the whole surface with a bronze-colored preparation, so as to make it of uniform hue and consistency. The strong acids in which the fragments had been immersed for many weeks, for the purpose of removing the incrustations which so thickly coated them, had taken away all appearance of bronze from the metal, and left it of a dull black. It was accordingly found necessary to restore the original color by artificial means; and, though it may not be altogether pleasant, when gazing at this exquisite figure, to reflect that the fine bronze hue is the result of a thick layer of paste, which, moreover, conceals rivets and seams and joints, it must be remembered that without these adventitious aids it would not have been possible to restore the statue at all.

After 40 days' continuous work M. André announced the completion of his labors.

So much for the statue itself, its discovery and its restoration. Now, let us consider briefly where it belongs in the history of Greek art and whom or what it represents.

Up to this discovery the first place of excellence among the few original Greek works of art was held by the Hermes of Praxiteles at Olympia, and marvelous as it is, it was not among the masterpieces of that artist famed in antiquity. So it may be with this, if we ever can ascribe it definitely to any of the great sculptors of Greece. But as we examine it, I think we shall agree in the judgment of Mr. Kabbadias, the present Ephor-General of Antiquities that "with the Hermes of Praxiteles Greece has now to present a second statue of equal value."

Again, I think the general opinion must be that expressed by Mr. Vicars in his article, from which I quote again:

> Here is a magnificent bronze whose general characteristics assign it positively to the IV Century B.C. The fine workmanship and consummate technical skill show that we are in the presence of an original work of a great master of that period. Having got so far, it requires no profound acquaintance with the individual characteristics of those sculptors to enable us to recognize in this beautiful figure a probable work of Zysippus, the last of the famous IV Century trio, of which the other two were Praxiteles and Scopas. We know from literary sources that this artist worked entirely in bronze; we know further that he modified the "Canon" of Polyclitus in the direction of lightening the human form and giving it more elasticity and life; by this means we have been enabled to identify certain statues as undoubted copies of his works, or as bearing marked traces of his influence; and from them we can realize more fully his excellences and mannerisms. These are so strikingly displayed in the present statue that in assigning its authorship to the great Sicyonian sculptor we have at least as convincing evidence as is likely to be at our disposal in determining so complex a problem.

Knowing that a new book was in press [Ginn & Company, Boston] entitled *Greek Sculpture, its Spirit and Principles*, I asked the author, Dr. Edmund R. O. von Mach, instructor in Greek Art at Harvard University,

whose fine judgment I have come to value in such matters, what he thought of the new addition to the art treasures of the world. He was kind enough to give me beforehand the substance of what he will have to say in his book.

Dr. von Mach does not venture a positive opinion as to the date and style of the statue. For to him there seems to be a disagreement between the treatment of the head and the body. The full, almost flabby flesh reminds one of the creations of a later time. The statue is almost like the "portrait" of the body of an indulging *bon vivant*. The impression of the whole statue is now quite different from that made by the head and shoulders before M. André had restored the figure. Not having seen the statue himself, Dr. von Mach does not feel qualified to judge of the accuracy of M. André's work, but thinks the changed appearance of the figure may possibly be due to the restorations, for he claims that even the fraction of an inch added to the circumference of the statue might account for its present, to him at least, unpleasant appearance. If the restorations are accurate, he would be inclined to date the bronze in a late period, what he calls by the poetic but appropriate title of the "Autumn Days of Greek Sculpture." The head, then, might have been copied from an earlier work, while the body would reflect the decadent style of a later period.

The statue has come to be called the "Hermes of Antikythera" from an opinion expressed soon after its recovery by a number of archæologists, among them Mr. Sboronos, the Greek numismatologist, who discussed the question in detail in a long interview printed in the Athenian *Asty*. Comparing other well-known statues and representations on coins, often useful in solving such problems, he came to the conclusion that it is a Hermes Rhetor or Logios, the patron of orators, represented as delivering a speech, and assigned it to the IV Century B.C., regarding it as inferior to the Hermes of Praxiteles and superior to the Hermes found at Atalante and now in the National Museum at Athens.

But the position of the fingers of the right hand are hardly appropriate for a gesture of an orator, and the careful examination revealing the added bits of bronze mentioned in the official publication cited above has made it evident that the right hand held some round object and the left hand something rather long and slender.

I can see no special reason for the early opinion of some who called it an Apollo, and there are serious objections to its representing Perseus holding the Gorgon Medusa's head in his right hand and his sword in the left. The most satisfactory suggestion is that the statue represents Paris, holding out the Apple of Discord. "This theory," to quote Mr. Vicars once more, "accords with all the peculiarities of the pose—the look of tension in the extended arm, the light grasp of the fingers, the momentary poise of the body; moreover, the gentle expectancy of the expression and the superb beauty of the features are such as one would certainly look for in a statue of the son of Priam in the act of judging between the three goddesses; while the great muscular development is well suited to the slayer of Achilles."

-VIEW FROM THE EAST OF THE GREAT CAHOKIA MOUND—MONKS' MOUND—700 BY 1,100 FEET AND 100 FEET HIGH. TO THE RIGHT IS A LARGE MOUND. [FROM PHOTOGRAPH BY DR. HENRY MASON BAUM.]

# ANTIQUITIES OF THE UNITED STATES

## *The Cahokia Mounds*

BY REV. HENRY MASON BAUM, D.C.L.

THE most imposing prehistoric monument in North America stands in the midst of the fertile plain known as the great American Bottoms on the Illinois side of the Mississippi River. From East St. Louis a series of artificial prehistoric mounds extends along and adjacent to the Cahokia Creek back to the bluffs, about 10 miles distant. These mounds were probably connected with those that once stood on the west side of the river, on the site of the City of St. Louis and gave to it the name of the "Mound City."

While it is not my intention to enter here upon a general discussion of the subject of the Mound Builders, it will be necessary to consider briefly some of the special features of their work in connection with this group of mounds.

The work of the Mound Builders encircles the world [see RECORDS OF THE PAST, Vol. I, pp. 6-13; 130-149; 162-171; 204-218; 218-220]. I use the term—work of the Mound Builders—in its literal meaning, which excludes mounds covering ruined cities, etc. The archæologist who has made a study only of the mounds of North America is not in possession of sufficient data to discuss intelligently the general subject of the Mound Builders. It is the most perplexing problem in archæology. Many students of American Archæology and Anthropology still call our great earth-works "Indian Mounds." It is true that the American Indians have and are still erecting burial mounds, but the earliest of the Indian mounds are easily distinguished from the work of the Mound Builders, properly so called.

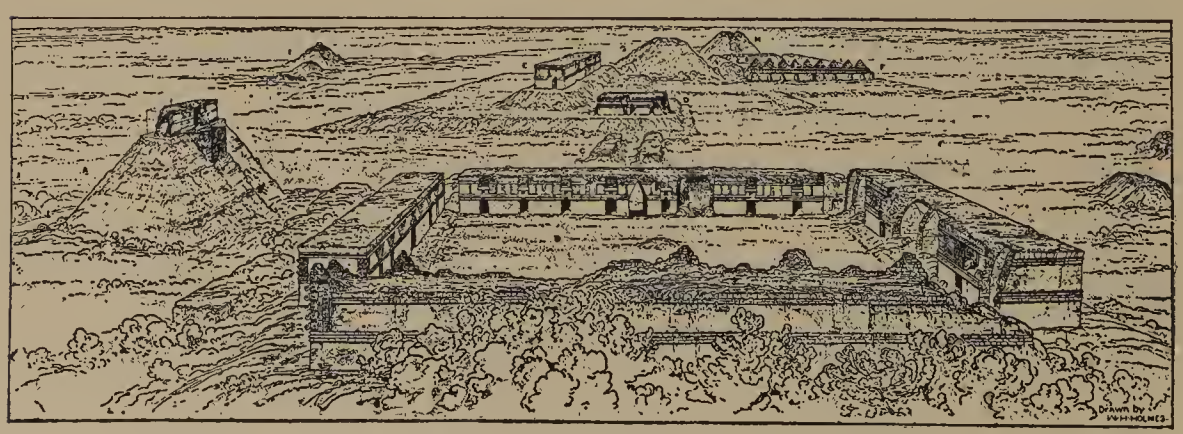
It will probably be found upon further study of the crania of the American Mound Builders that they differ as much from those of the historic American Indians as do those of the Asiatic Mound Builders from those of the present inhabitants of those countries. I would not infer from this statement that the Mound Builder of the Western Hemisphere was of the same race as the Asiatic. The average skull of the Mound Builder in the Mississippi Valley, so far as we have a type, resembles that of the race pictured on the monuments of Mexico and Central America. It will be seen from the accompanying photographs of the so-called pyramids of the Sun and Moon in Mexico that they resembled many of those in the United States. Hundreds of these artificial earth-works have been discovered in Mexico and Central America and the number is being increased from time to time by new discoveries. By reference to the articles in RECORDS OF THE PAST above cited and the accompanying photograph of a chain of mounds in Turkestan it will be seen that there is a close resemblance between the mounds of Asia and those of North America.

It is impossible to even approximate a date for the mounds in either Hemisphere from the data now available. The earth-works in both the Miss-

GROUP OF MOUNDS AT THE FOOT OF THE NORTHERN SLOPE OF THE ALA-TAU MOUNTAINS IN TURKESTAN. [FROM PHOTOGRAPH BY FREDERICK B. WRIGHT.]

issippi Valley and Mexico show a high civilization for the Stone Age, with varying degrees of culture. This civilization antedated or was the foundation upon which was built the still higher civilization of the southern part of our continent. But during this later development in the South the truncated pyramid surmounted by a temple formed the most imposing feature of that remarkable prehistoric architecture, as will be seen from the accompanying sketch of the ruins of Palenque, by Prof. William Henry Holmes.

If, therefore, for some reason unknown at present, the Mound Builders of the Mississippi Valley emigrated to the South, which seems more than probable, we must look for the cause of their final disappearance. In seeking the reason for the emigration of the Mound Builders to the South we must



PANORAMA OF UXMAL, YUCATAN. [DRAWN BY PROF. WILLIAM HENRY HOLMES.]

PYRAMIDS OF THE SUN AND MOON, TEOTIHUACAN, MEXICO. [FROM PHOTOGRAPH BY PROF. MARSHALL H. SAVILLE.]

PYRAMID OF THE SUN AND RUINS OF SAN JUAN, TEOTIHUACAN, MEXICO. [FROM PHOTOGRAPH BY PROF. MARSHALL H. SAVILLE.]

consider the national or tribal characteristics of the American Indian. I cannot better express my view on the subject than by quoting a paragraph from Dr. J. W. Foster's *Prehistoric Races of the United States of America* [p. 300].

The Indian possesses a conformation of skull which clearly separates him from the prehistoric Mound Builder and such a conformation must give rise to different mental traits. His brain, as compared with the European, according to George Combe, differs widely in the proportions of the different parts. The anterior lobe is small, the middle lobe is large, and the central convolutions on the anterior lobe and upper surface are small. The brain-case is box-like, with the corners rounded off; the occiput extends up vertically; the frontal ridge is prominent; the cerebral vault is pyramidal; the interparietal diameter is great; the superciliary ridges and zygomatic arches sweep out beyond the general line of the skull; the orbits are quadrangular; the forehead is low; the cheek bones high; and the jaws prognathous. His character, since first known to the white man, has been signalized by treachery and cruelty. He repels all efforts to raise him from his degraded position; and whilst he has not the moral nature to adopt the virtues of civilization, his brutal instincts lead him to welcome its vices. He was never known voluntarily to engage in an enterprise requiring methodical labor; he dwells in temporary and movable habitations; he follows the game in their migrations; he imposes the drudgery of life upon his squaw; he takes no heed for the future. To suppose that such a race threw up the strong lines of circumvallation and symmetrical mounds which crown so many of our river terraces, is as preposterous, almost, as to suppose that they built the pyramids of Egypt.

If the skull of the man found in the loess deposit of the Missouri River near Lansing, Kan., in 1902, is typical of the American Indian, and it seems to be, then the American Indian has been an occupant of the northern part of North America for several thousands of years. His savage characteristics would have brought him into continual conflict with the more peaceful and agricultural Mound Builders, which led the latter to construct for their protection the notable defensive earthworks of Ohio, Tennessee and other parts of the United States.

It can easily be understood why and how the American Indians made intrusive burials in the ancient mounds or learned to construct them themselves when we consider the long intercourse they must have had with the Mound Builders before they drove them farther south. The barbarous Aztecs again in turn supplanted the more peaceful and highly civilized occupants of Mexico and Central America.

If the Mound Builders of the territory now embraced in the United States had a central government it was located in the great American Bottoms of the Mississippi River, one of the most fertile regions in the world. All the records they left behind them are their mighty monuments, which bear witness to their patience and industry, the stone spades and hoes with which they tilled their fields, the pottery in which they cooked their daily food, the stone axes with which they felled the forest trees and the arrow and spear tips with which they hunted or defended their homes.

Religious worship has been a characteristic of every race that has inhabited the earth. The innumerable ceremonial mounds, found in the chief centers of the Mound Builders, show that this natural instinct of the human race was most prominent in their national life, as it was in the prehistoric people of Mexico and Central America, but there is nothing to indicate the nature of this worship of the Mound Builders of the United States.

VIEW OF THE GREAT CAHOKIA MOUND FROM SOUTHWEST SIDE, SHOWING TERRACES OF THE GREAT MOUND AND A LARGE MOUND IN THE FOREGROUND. ANOTHER LARGE MOUND IS JUST BEYOND IT TO THE NORTH. [FROM PHOTOGRAPH BY DR. HENRY MASON BAUM.]

Within a radius of 10 miles of the Great Cahokia Mound are over 100 mounds varying in height of from 10 to 100 feet. The group takes its name from the Cahokia Creek, on the southern bank of which stands this the largest mound of the group, generally known as Monks' Mound, on account of some Trappist Monks having used it as a residence site early in the last century. It is a little over 100 feet in height, and taking into consideration natural erosion, and the filling in of the plain from the overflowing of the Mississippi River and other causes, it must have been originally much higher. The average measurement of its level top is about 150 by 300 feet. During the past century this area has been alternately under cultivation and pasturage and at one time was covered with an apple orchard and forest trees; some of the latter are still standing. On the eastern edge is an old cistern and a depression around which are remains of the walls of a cellar, probably dating from the occupation of the mound by the Monks.

The view from the summit, in every direction, is one of exceeding beauty. I have looked down upon the fertile fields in the early morning, at noonday, at sunset and again at night when the moonlight revealed here and there farm houses, fields under cultivation, woodland and, towering above all, the neighboring mounds (18 are clearly visible) covered with fields of grain, forest trees or farm buildings, and each time with increased interest and admiration. The base measurement of the mound is about 700 by 1,100 feet (18 acres). It stands due north and south, fronting south. From the south end three terraces project from its base. They are about 40 feet high and 250 feet long. The ascent from these terraces to the summit is very abrupt—over 45 degrees. A terrace extends the entire length of the west side, with deep ravines cut by rain erosion. At the southwest end a second terrace extends north for about 100 feet. The north end is quite steep, being over 60 degrees. This end has been protected from erosion by forest trees and underbrush. The east side, shown in the panoramic view, originally sloped to the plain at an angle of about 50 degrees. A deep depression from the summit, about midway down to the plain, has been made by rain erosion.

Of course, it is impossible to form any idea of the minute architectural designs of the mound as originally built. Undoubtedly, it was erected for civil or religious purposes, or both. Whether it covers the remains of some of the distinguished leaders of this people only its excavation will disclose. Great credit is due the late Judge Ramey and his sons (the proprietors) for the preservation of the mound for over half a century. The sons are religiously guarding it to-day against despoliation and, in order to protect it from erosion by wind and rain, it has been surrounded by a fence and made a pasture for cattle and sheep.

This and the 60 mounds in the immediate neighborhood should be made a National Reservation. It is the only prehistoric locality east of the Rocky Mountains demanding and entitled to such protection by the National Government.

On account of the proximity of this group of mounds to the City of St. Louis and yet being in the State of Illinois, it is not likely that the State will protect them and of course the State of Missouri could not act in the matter, even if disposed to do so. The City of East St. Louis is rapidly extending in the direction of the mounds. In the city itself there once stood a mound second in size only to Monks' Mound, which was removed years ago, as was

I, LOOKING SOUTH, TRUNCATED, PYRAMIDAL MOUNDS, 50 AND 60 FEET IN HEIGHT, WITH 4 LARGE MOUNDS UNDER CULTIVATION BETWEEN THEM AND THE GREAT MOUND; 2, LOOKING EAST, LARGE MOUND COVERED WITH AN ORCHARD AND SUMMER GARDEN, 5 OTHER MOUNDS ARE IN CLOSE PROXIMITY TO IT; 3, LOOKING SOUTHWEST, LARGE MOUND WITH DWELLING HOUSE ON SUMMIT, REST OF MOUND UNDER CULTIVATION; 4, LOOKING WEST, LARGE MOUND WITH FARM HOUSE AND SEVERAL OTHER BUILDINGS ON SUMMIT. THE CAHOKIA CREEK FLOWS CLOSE TO THE NORTH END. SEVERAL MOUNDS ARE ON THE BLUFF TO THE EAST. [FROM PHOTOGRAPHS MADE FROM THE TOP OF THE GREAT MOUND BY DR. HENRY MASON BAUM.]

the case with several others in the City of St. Louis, for building sites. Many of the mounds are under cultivation and each year are being gradually leveled to the plain.

Could the scientific men of this and other countries be invited to the City of St. Louis during the Louisiana Purchase Exposition, for the purpose of studying the prehistoric remains of the Mississippi Valley and the Southwest, national interest would undoubtedly be created to such an extent, that our National Congress would take effective measures for the protection of the monuments of this great center of our prehistoric civilization. But the commercial instincts of the Directors of the Exposition have led them to make provisions only for a brief excursion of a few scientific men to the Exposition for the purpose of reading some essays, based on speculation rather than actual field observations.

A great deal has been written on the subject of the Mound Builders and a great many theories have been advanced regarding their origin and disappearance. It is still vigorously maintained by some, that the prehistoric monuments of the United States were erected by the ancestors of the present tribes of North American Indians. Dr. Cyrus A. Peterson, of St. Louis, who has been a diligent student of American antiquities for many years, ably and most vigorously maintains this view in his recent monograph on *The Mound Building Age in North America.* [The Robert Clark Company, Cincinnati, 1902.] It is the best presentation of this theory that has yet been made. But when it is conceded, as it must be, that mound burial by the Indians has never resulted in a single great monument being erected by them, even for entombment, we must look for the builders of the great earth-works of North America among a people widely differing from them in every essential characteristic they possess. Their history, during the 400 years that they have been known to us, reveals nothing approaching civilization. How much of the culture of the Cherokees can be traced to their contact with the Mound Builders many centuries back can only be surmised by the historical student. Like the other tribes of American Indians they have been migratory in their movements as far back as we can trace their history. The people who erected the great earth-works of the Mississippi Valley were not a nomadic race. When we find iron implements in small burial mounds, the crania interred with them quickly settles the question as to who their builders were. Dr. P. R. Baer, of St. Louis, had excavated under his personal supervision a small mound near Monks' Mound in which was found an iron axe which could not have been forged earlier than 200 years ago. With it were 5 stone axes of paleolithic and neolithic workmanship and 20 arrow points! Dr. Baer has been an extensive traveler and collector, and his statement does not need corroboration.

The building of the great Cahokia Mound was a more stupendous undertaking for the people who conceived and erected it than was the building of the pyramid of Cheops by the Egyptians. The former was the work of the Stone Age. The latter of the Golden Age of Egyptian civilization, when its engineering skill rivaled that of our own time. In considering the great earth-works of North America we must dismiss, as unworthy of consideration, the statement made by some writers, that a certain number of men carrying a certain number of cubic feet of earth each day would be able to build one of the great earth-works in a given number of days. Of course they could. But who has ever known or heard of a tribe of Indians who did or ever had the least inclination to do so?

# EDITORIAL NOTES

**ASIA MINOR:**—Dr. Leonhard, of Breslau, has published the results of his investigations concerning the ancient tombs of Northern Asia Minor in the XVIII Annual Report of *Schlesischen Gesellschaft für vaterlandische Kultur*. He deals especially with the two kinds of burial places which distinguish the two ancient civilizations found in Asia Minor,—tumuli and rock tombs. The tumuli, which are found only in the great plains, have been shown to exist in Phrygia and Paphlagonia. This mode of burial was probably introduced into Asia Minor from Thrace for, according to Herodotus, it was the custom among the Thracians on the west side of the Black Sea to bury in this way, heaping the stones in a tumulus over the body of the deceased.

In connection with Dr. Leonhard's observations on these tumuli it is interesting to note that this method of burial seems to have been almost universal and is practiced, to a greater or lesser extent, by a number of uncivilized peoples at the present time. The Ming Tombs in China [see RECORDS OF THE PAST, Vol. I, Part IV, p. 99] are situated on the edge of the great plain on which Pekin is located. Each of these tombs has a large tumulus thrown up over the actual grave of the Emperor. The mounds in North America which were used as burial places by the Mound Builders are a form of tumulus. The present method of burial among the Eskimo of Southern Greenland is of the same nature.

Concerning the rock tombs, Dr. Leonhard observes; that they are peculiar to the peninsula of Asia Minor and are known nowhere else except in Egypt where they were used at the time of the Middle Kingdom; and also that the custom is probably due to the large number of natural cavities occurring in the rocks of Asia Minor. He regards them as the remains of an independent Hittite development which is related to the ancient Babylonian civilization. In two chambers discovered by himself, one at Salarkö; and the other at Suleimankö; he found evidence of the Hittite style of the Paphlagonian tombs. He believes that the irruption of the Cimmerians marked the end of the development of culture in Paphlagonia and Cappadocia, thus placing the date of the last Paphlagonian rock tombs not earlier than 700 B.C.

**NORTH AMERICA:**—UNITED STATES: A prehistoric copper mine has recently been discovered near shaft A of the Michigan Copper Mining Company's mine, near Rockland, Mich. The mine was discovered in the side of a steep bluff 15 feet high. At a depth of 10 feet from the surface the earth was black with pieces of charcoal and on digging deeper a pile of charred logs was found. Near these were large stone hammers, the weight of some being as much as 30 lbs. It is probable that the method used in mining was to build a fire around a mass of rock containing the copper, then, by dashing cold water upon the highly-heated rock, splintering it so that the copper, which occurs here in the metallic state, could be easily pounded out with stone hammers.

MEXICO: A remarkable group of ancient ruins has recently been discovered in the state of Puebla, by Dr. Nicolas Leon, sub-Secretary of Public Instruction of Mexico, and Col. D. Joaquin Beltran. In the *Mexican Herald* Dr. Leon makes the following statement:—

As head of the section of anthropology and ethnology of the National Museum, I accompanied Señor Rodriguez to the scene of the ruins. We went directly to the town of Tepeyahualca, in the district of San Juan de los Llanos, state of Puebla. In this place we were cordially received by Señor Bruno Osorio, one of the prominent men, who had been advised of our coming by the proprietor of the Hacienda Xaltipanapa upon whose lands the ruins are.

Señor Martinez, our host, was greatly surprised to learn that the monuments upon his land were unknown to the world for the reason that in the time of Maximilian there was a story abroad concerning them and even a scientific expedition was formed to visit them, but Señor Martinez was aware of the fact that owing to the exciting political events that occurred about that time there was not much accomplished, and ever since the ruins were ignored.

The day following our arrival we visited the ruins, the first of which we encountered at a distance of a mile to the east of the house of Señor Martinez. In a range of small hills that extend from north to south from the high neighboring mountains, the trend of which is mostly from east to west, we found a very numerous series of pyramidal constructions, guarded by elaborate trenches and connected, for purposes of communication, by wide avenues which were set off at intervals by sloping acclivities, platforms and staircases. All the pyramids were found to be quadrangular and to have been built with especial reference to the cardinal points. The heights of them were from 30 to 50 feet.

These important monuments were constructed entirely of rocks of sandstone cut and laid in juxtaposition dry, that is to say, without the use of cement. The surface dressing of the pyramids are small stones worked into cubical forms of very ornamental appearance and laid close together.

As a rule every 4 of the pyramids surround a court. All of them are so grouped that each and every one of them guards the entrance to the courts. But if in any case the entrances are not protected great walls with bases much wider than their summits reinforce the pyramids. These walls are of such size that their summits are really streets. They are well paved with flat stones and have platforms, staircases and sloping acclivities like the avenues. Many of the walls have been thrown down owing to the destructive work of vegetation and the hand of man.

There is one avenue in particular which absorbed our attention. It started at the peak of the highest hill in the locality and sloped with moderate declivity down the hill. As it was evidently intended in remote times for the conveyance of loaded wagons drawn by oxen up and down the hill it was necessary to commence the construction of it at the hilltop by giving to it an elevation of a few feet above the hillside and increasing the height rapidly above the hillside as it approached the vale below.

On one of the highest of the platforms and at the bases of all the pyramids we found pieces of pottery, which were certainly made before the time of Columbus and which were evidently the remains of a civilization relatively more advanced than that of the builders of the pyramids. We found also many sculptured scenes, in bas-relief, of prehistoric times. Figures of human beings and animals in stone and iron were quite numerous. Domestic utensils of stone painted rose color were scattered over the ground. Stone knives and arrowheads of the obsidian epoch were encountered in great abundance.

The disposition and construction of the monuments remind me of Guerrero. They are the oldest to my knowledge in the republic and merit the most careful and extended investigation. We who have visited the ruins are determined to solve the enigma of their age and the character of the people who built them. The Mexican Government will assist us in many ways in the matter.

# RECORDS OF THE PAST

VOLUME II AUGUST, 1903 PART VIII

Volume II

# RECORDS OF THE PAST

Part VIII

REV. HENRY MASON BAUM, D. C. L.
Editor

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MR. FREDERICK BENNETT WRIGHT
Assistant Editor

AUGUST, 1903

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THE FORUM, LOOKING WEST, SHOWING THE CHURCH OF S. MARIA LIBERATRICE BEFORE THE RECENT EXCAVATIONS, THE HOUSE OF THE VESTALS AND THE NORTH CORNER OF THE PALATINE HILL

# RECORDS OF THE PAST

VOL. II

PART VIII

AUGUST, 1903


## EXCAVATIONS IN THE ROMAN FORUM*

BY PROFESSOR ALBERT R. CRITTENDEN, A.M.

### THE DECLINE OF THE FORUM

THE period of constructive activity, during which the Roman Forum was adorned with so many civic, religious and commemorative structures, came to an end with the death of the Emperor Constantine in 337 A.D. With the exception of the Column of Phocas—and this was perhaps a member of some older building adapted to a new purpose—scarcely a new edifice or monument worthy of mention was erected in the area or upon the borders of the Forum after that date. The importation of foreign marbles, which had been carried on upon an enormous scale, ceased at the same time. There was, it is true, a notable revival of building activity under the Emperor Theodoric [500-526 A.D], but this was almost wholly confined to the rebuilding and repair of existing monuments. Numerous causes contributed to this decline; among the most evident may be mentioned the impoverishment of Italy by war and taxation, and the loss of prestige consequent upon the removal of the imperial capital to Constantinople. Furthermore, the rapid growth of Christianity and its recognition

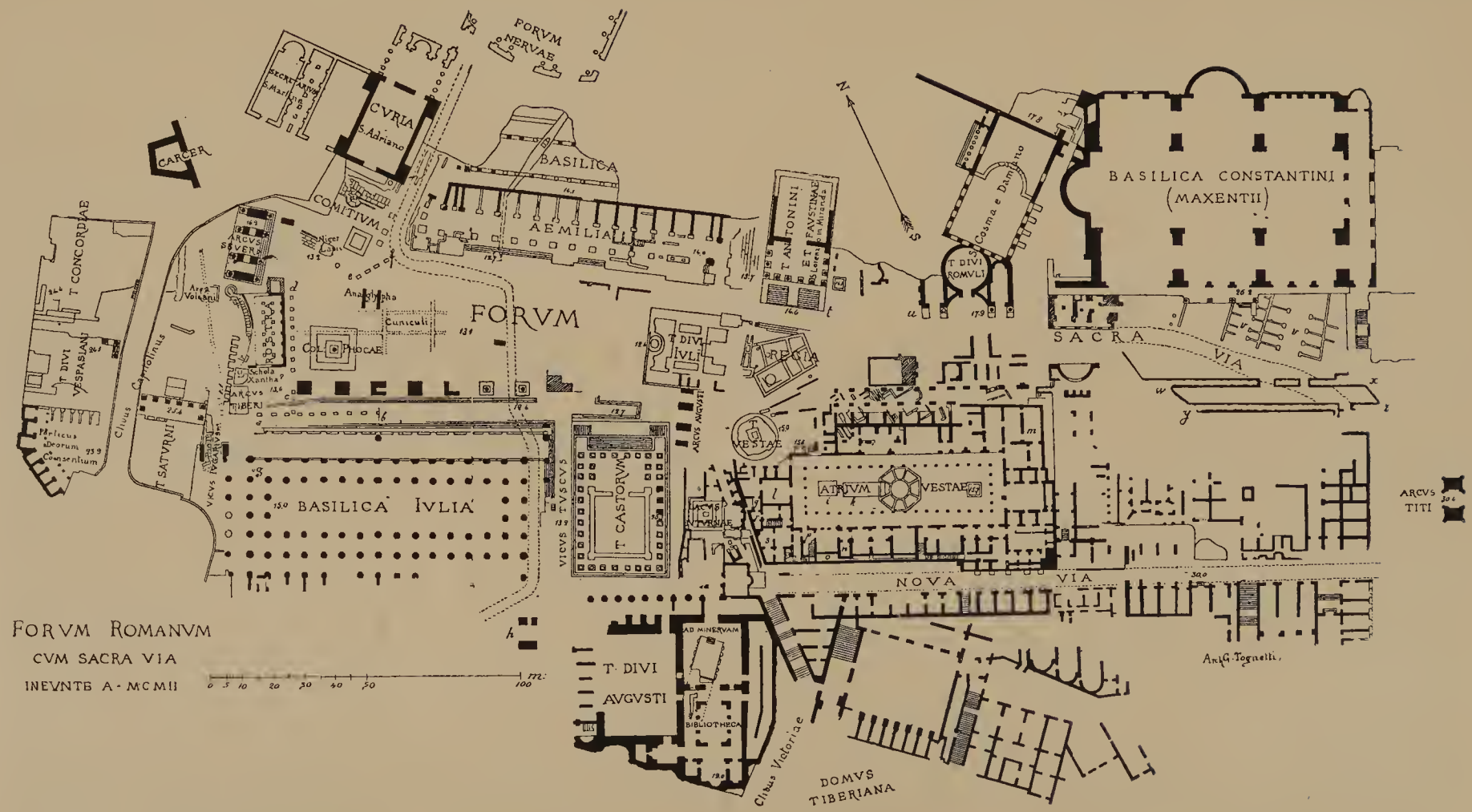
*Read at the Classical Conference at Ann Arbor, Michigan, May 28, 1902, and revised for publication in RECORDS OF THE PAST. The writer is especially indebted to Professor F. W. Kelsey for the loan of several recent photographs. Full acknowledgment is also made of the aid received from Huelsen's comprehensive article, *Ausgrabungen auf dem Forum Romanum*, in *Mittheilungen des K. D. Archæol. Instituts, Roemische Abtheilung,* Vol. XVII, and from Henri Thédenat: *Forum Romain.*

as the state religion caused the pagan temples of the ancient City to fall into disuse.

But this disuse was only gradual, and we have numerous reasons for believing that many of the buildings surrounding the Forum remained practically intact, and were even kept in repair for at least 3 centuries after the death of the first Christian emperor. According to the account of Ammianus Marcellinus, the Emperor Constantius and his attendant princes, upon the occasion of their visit to Rome in 357, were greatly impressed by the magnificence of the Forum. Procopius speaks of many of the monuments of the City being uninjured about the middle of the VI Century. When the Column of Phocas was erected in 608 the pavement of the Forum must still have been clear of the rubbish which buried it later. Early in the VII Century the Curia came into the possession of the Bishop of Rome with its "ancient decorations, the gilt coffers of the vaulted roof, the bas-reliefs of the pediment and the bronze door" still intact. At the time of the composition of the Einsiedlen Itinerary, in the IX Century, the pavement of the Forum and of the neighboring streets was evidently unburied, since the writer was able to copy inscriptions which were but little above it. It is true that Rome was thrice plundered by barbarians during this period; but, as Sauciani has so clearly shown in his volume on *The Destruction of Ancient Rome*, their depredations were, for the most part, limited to the carrying away of works of art and other portable booty, and did not extend to the destruction of buildings and monuments; at least, we have scanty evidence for believing that they were in any considerable degree responsible for the present ruined condition of the Forum. The conversion of classic edifices into Christian churches contributed at once to their preservation and to their alteration. The practice was limited at first to civic or semi-civic buildings, as the Templum Sacræ Urbis, changed into the Church of SS. Cosmas and Damian by Pope Felix IV [526-530]; it was first extended to pagan temples in the case of the Pantheon, which became the Church of S. Maria ad Martyres in 609, during the Bishopric of Boniface IV.

The Emperor Heraclius, who visited Rome in 629, permitted Honorius I to remove the gilt-bronze tiles from the roof of the Temple of Venus and Rome, and to use them in the construction of the Church of S. Peter. The Heroön of Romulus, in front of the Templum Sacræ Urbis, also suffered the loss of the bronze tiles from its roof about the same time. These temples, then, were practically uninjured before 629, and this date marks the beginning of their disintegration.

There is little doubt that the Saracenic invasion in 846 resulted in the partial destruction of many ancient buildings; but incalculably greater ruin was wrought by the domestic feuds of the Roman nobility in the X and XI Centuries. During these darkest days of Roman history the buildings at the east end of the Forum were included in the stronghold of the Frangipani, while others were ruthlessly destroyed. Some which did not lend themselves readily to military purposes were used by the lower orders of craftsmen, as the Basilica Julia, which became the workshop of rope-makers. In 1883 the ruins of a small mediæval house were discovered upon the site of the House of the Vestals; the building dated from the middle of the X Century, and stood upon a layer of rubbish 5 feet thick.




PLAN OF THE ROMAN FORUM. [FROM DIE AUSGRABUNGEN, AUF FORUM ROMANUM, 1898-1902, BY DR. CH. HUELSEN.]

Scarcely less destructive were the capture and sack of Rome by the Normans and their Saracenic allies under Robert Guiscard, Duke of Apulia, in 1084. Most impressive testimony to the terrible devastation wrought at this time is afforded by the Church of S. Clemente on the Cælian Hill; a new church was built early in the XII Century over the older structure, and the level was raised nearly 14 feet in order to reach the surface of the layer of débris which covered the surrounding space. In the XII Century the level throughout the central portion of the City had risen upon an average 10 or 12 feet, largely owing to the accumulation of rubbish from ruined buildings. In 1349 an earthquake added its share to the general devastation. During the residence of the Popes at Avignon [1309-1377], the neglect and decay of the City were still more marked; the population dwindled to a mere fraction of its former proportions, and large districts within the walls were abandoned or given over to cultivation. The area of the Forum was devoted to the raising of garden vegetables or used as a pasture for cattle and hogs.

With the gradual transformation of the mediæval into the modern City and the revival of building activity, other vicissitudes befell the ruined buildings of the Forum. Beginning with the latter part of the XII Century, there sprang up in the City flourishing schools of architects and marble-cutters, who sought their materials not in foreign countries, but among the ruins of ancient buildings. The immense amount of choice marbles that had accumulated for centuries was used not only for the decoration of Roman buildings, but for the embellishment of the cathedrals at Pisa, Orvieto, Salerno, and many other cities, even those of foreign lands.

Strange to say, the authorities of the City not only permitted, but even assisted the work of demolition. In 1499 permission was given, in consideration of a share of the proceeds, to establish a marble quarry between the Church of SS. Cosmas and Damian and the 3 columns of the Temple of Castor and Pollux. This included the marbles of the Arch of Fabius, the Regia, the House of the Vestals, the Temple of Julius Cæsar and the Arch of Augustus. In 1540 an act was passed conferring upon the builders of the Church of S. Peter the right systematically to exploit the materials of the ruined buildings of the Forum. During the next 10 years the Temple of Antoninus and Faustina, the Temple of Castor and Pollux, the Regia and the Temple of Vesta were thoroughly despoiled of their marble and travertine.

These are only two of many legal permits which were given to architects, marble-cutters and lime-burners in the XIV, XV and XVI Centuries to use the materials of the classic edifices of the Forum. Limekilns were established in the Forum and in several other parts of the City, and an incalculable number of statues and beautiful architectural fragments were burned to furnish lime for the buildings of the Renaissance. This accounts for the fact that so little remains of the buildings in the Forum beyond the mere foundations. Petrarch, Raphael and many others vainly remonstrated; it was not until comparatively recent times that the destructive practice was stopped.

At the end of the XVII Century the Forum was still the Campo Vaccino, a half-deserted valley, the ancient pavement being unevenly covered by a layer of rubbish and loose soil from 15 to 30 feet thick. A road shaded on either side by elm trees ran from the Arch of Septimius Severus to the Arch of Titus, perhaps a reminiscence of the triumphal procession

of the Emperor Charles V a century and a half before. On the north side the soil rose to the spring of the side arches in the Arch of Septimius Severus. On the west the débris at the foot of the Capitoline buried the columns of the Temple of Vespasian to within 6 feet of the capitals. At the other end of the Forum the lofty podium of the Temple of Castor and Pollux was completely covered. In front of the temple was a half-buried fountain with a great granite basin, the same which now stands in front of the Palace of the Quirinal.

### THE EXCAVATIONS IN THE FORUM BEFORE 1898

Under Leo X [1513-1522], Michael Angelo had commenced to excavate around the Arch of Septimius Severus. In 1546 Cardinal Alexander Farnese began a series of excavations between the Temple of Antoninus and Faustina and the Temple of Castor and Pollux, in the course of which many inscriptions were discovered. Part of the pavement of the Basilica Julia was uncovered in 1742. With these exceptions little was done in the way of scientific exploration until towards the close of the XVIII Century.

In the winter of 1788-89 Fredenheim excavated part of the site of the Basilica Julia, discovering an inscription of the *Kalatores Pontificum*. At the beginning of the last century Pope Pius VII, ably assisted by the Italian archæologist Carlo Fea, took steps looking towards the preservation of the ruins and determined to excavate the whole Forum; the work began with the Arch of Septimius Severus. During the French occupation the excavations were pushed forward under the direction of Count Tournon. The ruins of the Temple of Vespasian and of the Temple of Saturn were laid bare, and measures were taken to render them more secure; the steps of the Temple of Antoninus and Faustina were uncovered, and the pavement of the Sacra Via in front of the temple was brought to light; the marble pavement of the Basilica of Constantine was cleared of débris, and the mediæval buildings which connected the Arch of Titus with the Church of S. Francesca Romana were demolished, exposing the arch and laying bare the steps and portico of the Temple of Venus and Rome. After the departure of the French the excavations were continued; in 1816 the Temple of Castor and Pollux, which had hitherto been called the Temple of Jupiter Stator, was identified, and the round base of the Temple of Vesta was discovered and recognized by Fea. The Temple of Concord was identified in 1817, and 4 years later Valadier restored the Arch of Titus. In 1827, under Leo XII, Fea was appointed commissioner of antiquities, and Nibby director of excavations. The work of the next 8 years, among other results, furnished the data needful to establish the true orientation of the Forum, concerning which there had been much confusion.

When Rome came under the power of Victor Emmanuel, in 1870, the National Government assumed control of the excavations, which were placed under the direction of Sig. Rosa. Among the most interesting achievements of the next 6 years were the discovery of the podium of the Temple of Julius Cæsar in 1872, and the finding, in the same year, of the two marble *plutei*, which still stand near the Column of Phocas. In 1876 the excavations were put in charge of Fiorelli. It was now decided to excavate the area lying east of the Forum, and the work was vigorously begun. During the winter of 1880 the Heroön of Romulus was freed from the later buildings which encumbered it. In 1882, under the direction of

Guido Bacelli, the modern street which crossed the Forum on a high embankment just east of the Temple of Saturn and the Arch of Septimius Severus was changed to its present position over the Clivus Capitolinus. In the course of this work the ruins of the Rostra were brought to light. Another viaduct which crossed the Forum from the Church of S. Maria Liberatrice to the Temple of Antoninus and Faustina was removed at the same time. The House of the Vestals and the Via Nova were excavated by Lanciani in 1883-84. During the next 14 years the excavations took the form of special studies of particular monuments; Jordan and Richter had already completed in 1882-84 a careful examination of the Rostra; Fiorelli in 1886, and Huelsen in 1887, explored the foundations of the Regia; in 1888 Richter discovered the foundations of the Arch of Augustus, and in 1896 the front of the podium of the Temple of Castor and Pollux received a similar careful scrutiny.

### THE RECENT EXCAVATIONS

The year 1898 was an eventful one in the history of Roman archæology. In the fall of that year, two purposes that had gradually been taking form in the minds of those in control of the excavations found definite enunciation. The first was, to classify the numerous architectural fragments which had been discovered in the course of former excavations and which were scattered in great profusion about the Forum, and so far as possible to assemble them in the vicinity of the buildings to which they had originally belonged; the second, to carry the excavations to deeper levels than had hitherto been attempted. The commission which was appointed by the Italian Ministry of Public Instruction for the general oversight and direction of the work consisted of Professor Huelsen, of the German Archæological Institute, Professor Lanciani, of the University of Rome, Sig. Gatti, and Cte. Sacconi. The execution of the work was intrusted to the Venetian architect, Sig. Giacomo Boni, to whose restless energy, systematic methods, and accuracy of observation much of the success of the enterprise has been due. The classification of the fragments was begun at once, and has been carried forward with the greatest industry, contributing much to the reconstruction of the buildings in and about the Forum; the new excavations have been pushed forward vigorously, with most interesting and fruitful results. I shall not attempt here to follow these in chronological order, but rather endeavor to summarize the most important results according to the location of the excavations.

Under the pavement of the Clivus Capitolinus, the cloaca leading from the Tullianum has been cleaned out, also its continuation 10 m. below the surface in the Vicus Iugarius as far as the apse of S. Maria della Consolazione. In the Forum it is built of 3 layers of tufa blocks, with floor and roof of large horizontal slabs of tufa. In the Vicus Iugarius it is of brick of the imperial period, with brick floor and concrete roof. A branch runs along the street in front of the Basilica Julia and was cut by the foundations of the Arch of Tiberius. A complicated network of drains was also discovered between the Temple of Saturn and the Temple of Concord.

Common opinion has usually located the Arch of Tiberius at the N. W. corner of the Basilica Julia, directly over the Sacra Via. In 1889 Richter advanced the theory that it was nearer the Rostra. The new excavations show that it was on the N. E. side of the street and that its N. W. side stood close to the Clivus Capitolinus, which was probably reached by a flight of

HOUSE OF THE VESTALS, WITH STATUES OF VESTALES MAXIMÆ, SEEN FROM THE S. W. IN THE BACKGROUND, HEROÖN OF ROMULUS, SON OF MAXENTIUS, BASILICA OF MAXENTIUS AND CHURCH OF S. FRANCESCA ROMANA

FOUNDATION AND ARCHITECTURAL FRAGMENTS OF THE TEMPLE OF VESTA. THE 3 COLUMNS AT THE LEFT BELONG TO THE TEMPLE OF CASTOR AND POLLUX

steps passing through the arch. The foundations measure 9 by 6.3 m., and the arch probably had but one opening. Numerous architectural fragments of this arch have been gathered together near the westernmost of the 7 brick bases of honorary columns, by means of which a tolerably accurate reconstruction of the arch is possible.

Adjoining the Arch of Tiberius on the N. E. is a white marble pavement of trapezoidal shape, bearing traces of several bases of some sort. There are also indications of a bench running around 3 sides. In one corner is a mediæval fountain. On the N. E. side a door leads by a narrow flight of steps to the Clivus Capitolinus. Professor Huelsen thinks we have here the Schola Xantha, the office of the assistants of the Curule Ædiles, of which the epistyle with a dedicatory inscription was discovered on the same spot in the XVI Century.

Much interest has been manifested in the discovery, behind the Rostra and the Arch of Tiberius, of 8 low, arched chambers of excellent tufa reticulate work, 1.6 m. high, 1.7 m. broad, 1.5 and 2.15 m. deep, and separated by walls from .6 to .9 m. thick. The chambers are uniform in design, of simple, but careful workmanship; they are paved with tesseræ of brick, and this pavement extends about 4 m. in front of the row. The floor of the chambers lies below the level of the cloaca leading from the Tullianum; they were in part torn away at the erection of the Arch of Tiberius and in part blocked up by the erection of the Hemicycle.

THE COIN OF PALIKANUS

Signor Boni concluded that this structure was Cæsar's Rostra, represented upon the Coin of Palicanus; that the chambers were partly filled with water, upon which floated the bronze beaks of ships. Several serious objections to this view present themselves. It has been pointed out that the structure is too low for such a purpose, that its upper surface bears no traces of the balustrade which is so conspicuous in numerous representations of the Rostra, and that it is much too narrow. Furthermore, it is not at all certain, despite Jordan's opinion, whether the Coin of Palicanus represents the Rostra or some other structure. The arches may perhaps have been designed for a much more prosaic purpose, i.e., simply as a supporting wall for the Clivus Capitolinus at the N. W. end of the Forum. It is noteworthy in this connection that a little further up the Clivus Capitolinus we have a similar row of chambers supporting the street in the Porticus Deorum Consentium; also that the orientation of the newly discovered arcade corresponds to that of the Temple of Saturn, at the rebuilding of which in 42 B.C. the Clivus was probably moved about 2 m. to the eastward.

The purpose of the curved structure just behind the Rostra is still not entirely clear. Apparently, it consisted of a flight of 5 curved steps leading up to a narrow, curved platform close to the rear of the Rostra. Huelsen supposes that the S. W. half of this flight of steps led from the Clivus

ROW OF ARCHES SUPPOSED BY BONI TO BE THE ROSTRA OF CÆSAR

Capitolinus to the platform of the Rostra, and that the N. E. half afforded access to a portico from which an awning could be stretched over the speaker's platform. Highly decorated fragments of a curved entablature, whose arc corresponds to that of the Hemicycle, have been found, some in the earlier and some in the later excavations.

One of the most notable pieces of excavation in recent years has been that of the area of the Comitium, which until the autumn of 1898 lay beneath the high embankment wall of the street north of the Forum. In the course of his excavations and borings, Boni has distinguished 24 archæological strata, which he has carefully analyzed and recorded. The wall of the Curia bears plain indications of the repeated raising of the door, as the level of the ground outside rose. In the Middle Ages, when the Curia was transformed into the church of S. Adriano, the Comitium was used as a burying ground. In the front wall of the Curia itself several loculi were hewn. The floor of the Comitium is covered by several pavements of different epochs and at varying levels. In one were found traces of a railing separating the space immediately in front of the Curia from the rest of the Comitium. In the uppermost pavement, almost directly in front of the door of the Curia, lies the broad, flat, lower basin of a fountain.

Great interest was excited by the discovery in the spring of 1899 of the so-called *Lapis Niger*, the supposed Tomb of Romulus, and the archaic stele. Just upon the border line between the Comitium and the Forum, about 1 meter below the pavement of the street leading through the Arch of Septimius Severus, there was found a piece of pavement, approximately 4 m. square, made of large, thick blocks of black marble, carefully fitted together. This had been inclosed by thick vertical slabs of white marble, roughly set in a foundation of travertine. The material of this pavement is so unusual as to indicate that it was intended to mark a spot of peculiar significance. Passages in various ancient writers were at once called to mind which speak of a black stone in the Comitium, marking the tomb of Romulus or of his foster father, the shepherd Faustulus.

Explorations beneath the black pavement brought to light a group of much more ancient monuments, of different orientation. Two rectangular bases of tufa, 2.6 m. long by 1.3 m. broad, and about .6 m. high, lie parallel to each other, about a meter apart, and are connected at the front and back by a layer of tufa. Midway between them, at the front, lies a smaller block of tufa. The earth between the two bases is mixed with ashes and cinders. On the westernmost of the 2 bases lies a plinth about .3 m. high, of very ancient workmanship, and preserved almost entire; on the other base is the front part of a similar plinth, broken in 2 pieces. These plinths may very well have served as the pedestals of the 2 lions spoken of by the Scholiast in connection with Horace, *Epod.* xvi, 13, as guarding the tomb of Romulus. The rear ends of the bases have a plain perpendicular surface, showing that they stood against some other structure. At this side of the group lies a foundation of tufa blocks, 3.5 m. long, and 1.6 m. broad. The whole group was found imbedded in a layer of sacrificial remains, about .5 m. thick, consisting of charred bones, fragments of vases, figurines and various other objects. West of the bases was found the lower part of a conical pillar of yellow tufa about .5 m. high, and the lower part of a stele of brown tufa, slightly pyramidal in shape and flattened at the corners, which is covered on all four sides with a very ancient inscription. The alphabet employed is an archaic Greek one, and some, at least, of the words

THE FORUM, S. W. PART. FOREGROUND—ARCHITECTURAL FRAGMENTS AND MARBLE BALUSTRADES DISCOVERED IN 1872. BACKGROUND—COLUMN OF PHOCAS, TEMPLE OF SATURN AND 3 COLUMNS OF TEMPLE OF VESPASIAN

LAPIS NIGER WITH 2 STONE BASES UNDERNEATH

are Latin. The lines are vertical and run, first, from the bottom to the top, then from the top to the bottom, etc.,—the style of writing called *Boustrophedon.* No satisfactory interpretation of the inscription has yet appeared; it would seem to be the record of a pontifical law relating to the sacrifices, similar to the one spoken of by Livy, 1, 20.

Somewhat less romantic, but even more important are the results of the excavations upon the site of the Basilica Æmilia. The area directly north of the central part of the Forum was not at the disposal of the government prior to 1899, having been covered with modern buildings. Only about half the area of the basilica had been excavated at the end of the period covered by this article, but this is sufficient to give us a fairly accurate idea of its form. Several steps led from the street to a marble-paved walk which extended along the N. E. side of the Forum. From this 3 more steps led to a portico about 14 m. broad, extending from the Argiletum almost to the Temple of Faustina. In front were 16 heavy piers with projecting half columns similar to those of the Basilica Julia, and built of great blocks of marble. The rear of the portico is closed by a wall of tufa blocks. From this jut forward cross walls about 7 m. in length corresponding to the 16 great piers in front. These terminated in marble pilasters and separated the *tabernæ* from one another. This row of shops stretched for 85 meters along the N. E. side of the Forum.

Beyond the tufa wall lay the great hall of the basilica, consisting of a central nave and two aisles. It was connected with the middle *taberna* by a door through the tufa wall. The hall was 22 m. wide, the nave 12 m. and the aisles 5 m. each. The pavement consisted of great slabs of colored marble, upon which were found numerous bits of iron, and bronze coins which had been melted, showing that the building had suffered from the ravages of fire. The columns separating the nave from the aisles were of Africano, and supported an entablature of white marble which bears the fragmentary inscription, PAUL, RESTI, apparently in reference to the restoration by Lucius Æmilius Paulus in 54 B.C. Resting upon this entablature was an upper row of similar columns with a second and lighter entablature. The principal entrance of the basilica was probably at the N. W. end, from the Argiletum. The ornamental details of the architecture will bear comparison with the finest work of the early Empire.

The row of 16 piers in front of the *tabernæ* would seem to have been removed in late classical times, and replaced by a row of red granite columns, which stand considerably closer together. One of these was found *in situ;* 3 others have been re-erected. The ruins of a mediæval house occupy 3 of the *tabernæ* and the space in front of them in the S. E. half of the portico. An ancient cloaca runs obliquely beneath the basilica, apparently having joined the Cloaca Maxima at the bend in the latter directly in front of the edifice. Where this cloaca passes under the wall supporting the N. E. row of columns of the nave, it contains 3 great blocks of travertine which serve as piers for this wall. Close to the steps leading up to the N. W. end of the basilica is a circular marble base, with a rectangular projection on the N. W. side—possibly the foundation of the Shrine of Venus Cloacina.

Beneath the travertine pavement which covers the middle of the Forum are 3 underground passages whose purpose has not yet been satisfactorily explained. They are about 2 m. high and about 1.5 m. broad, with walls of tufa and vaulting of concrete. The longest of these passages extends in the direction of the long axis of the Forum, passing beneath the founda-

tions of the Column of Phocas and running about 25 m. to the S. E. of it. This is cut at right angles by two others, which have small chambers at either end. Signor Boni believes that these cuniculi had some connection with the stage machinery used in the plays given in the Forum by Julius Cæsar.

In various parts of the Forum were found a number of shallow pits, whose purpose is not wholly clear. Sometimes they occur singly and sometimes in rows. One row lies close in front of the Rostra, one in front of the Basilica Julia, and one near the S. E. corner of the Comitium. The pits in these rows have tufa walls, are 4 Roman feet in length and half as broad and deep, and are placed 10 feet apart. They contained great numbers of chalice-shaped terra-cotta vessels, such as might have been used for pouring libations. Boni believes that these pits had some religious significance, and terms them *pozzi rituali,* ritual pits.

When the semi-circular niche in front of the temple of Julius Cæsar was cleared out in 1898, a round base of concrete was discovered which may well have served as the foundation of an altar, or less probably as the base of the column of Numidian marble which once marked the spot where the body of Cæsar was burned. The excavations also show that the cella of the temple was not so disproportionately short as Richter had assumed; the foundations extend 2 m. farther to the east than had been supposed, so that the cella must have been about square.

The foundations of the Regia were thoroughly explored in the summer and fall of 1899. Huelsen believes that the trapezoidal space on the north side was an open court, while the Regia itself was an approximately rectangular structure; Richter maintains that the area in question was an integral part of the building, and that the Regia itself was of trapezoidal shape. It would seem that we have to do with remains of at least 3 different periods; first, a structure of tufa and opus incertum of republican times; second, the Regia of the time of Domitius Calvinus; third, a building, perhaps a private house, of the early Middle Ages. On the north are 3 steps over 20 m. long, which were perhaps in front of the last-mentioned edifice. Within the trapezoidal space on the north side are 2 wells, and a cylindrical cistern of tufa blocks, with dome-shaped top. The cistern is plastered inside, and has a floor of opus signinum. It contained among other things a large number of bone styluses, an oaken writing tablet and fragments of a limestone well-head with the last 4 letters of the word *Regia* inscribed upon it. Within the rectangular inclosure upon the south side is a small pavement of tufa, which supports a low, round platform of gray tufa whose purpose is not clear. Perhaps it was the foundation of the Sacrarium Martis, where the sacred spears were kept. The entrance would seem to have been on the east side, where a threshold and the steps leading up to the door are visible. An important fragment of the consular Fasti, with which the walls of the Regia were adorned, was found among the ruins of the mediæval house on the site of the Basilica Æmilia, where it had been used as a doorsill.

A most careful examination of the ruins of the Temple of Vesta has been made under the personal direction of Signor Boni. The ruins consist of a round concrete core dressed with tufa and brick-work, together with a few architectural fragments. In the middle of this foundation, extending through all its layers to the soil beneath, is a trapezoidal pit about 2.5 m. on a side, with walls of opus incertum below and brick-work above. This

Boni supposes to have been a receptacle for the ashes from the sacred fire. It is noteworthy that the uppermost layer, which was formerly supposed to be mediæval, is now shown to be ancient.

The addition of about 1.5 m. to the height of the foundation raises anew the question whether several fragments of plinths and short pilasters found near the temple in 1877 belong to the outer covering of the substruction. If so, the columns of the temple must have rested upon these projecting pilasters, and the metal screens between the columns were not exactly in line with the centers of the columns, but were set farther within. In striking confirmation of this view is the fact pointed out by Mr. Ashby, that in the fragments of the columns which have been found, the 2 vertical rows of holes which receive the screens are not opposite each other, but have not more than 7 of the 24 flutings between them on one side and not less than 15 on the other side. Four fragments of the lacunar frieze with an inner and an outer cornice have been found, also a bit of the frame of a window, probably from the cella. The general form of the temple, as conceived by Boni, must have resembled quite closely the well-known relief in the Uffizi Gallery at Florence. except that the conical roof was probably steeper.

The excavations in the House of the Vestals have brought to light some interesting details. Under the octagonal brick pavement in the middle of the great court were found two large rectangular basins, with steps descending into them. In several rooms in the southern part of the house the later pavements have been removed, disclosing the beautiful pavements of the best imperial period, made of giallo antico, pavonazzetto, porta santa and other costly marbles. The later pavements were raised about .7 m. above the earlier ones, evidently to prevent dampness. Under the brick cover of a drain beneath the corridor on the south side of the building were found about 400 gold coins of the late Empire, evidently hastily concealed here in some time of sudden panic.

The excavation of the area formerly occupied by the church of S. Maria Liberatrice has added very materially to our knowledge of the topography of this side of the Forum. Aside from the very interesting group of monuments connected with the Fountain of Juturna, described in RECORDS OF THE PAST for June, we now know that the Nova Via, in the time of the Empire at least, did not run round the whole north side of the Palatine Hill, but was squarely blocked at the west end of the House of the Vestals by a rectangular building of good brick-work, with an apse on the east and a broad door opening toward the west. Whatever the original use of this building may have been, it was later transformed into a Christian oratorium, as is clearly shown by the paintings upon its walls. The south side of the street at the rear of the Temple of Castor and Pollux was bordered by a portico or hall with pillars and engaged columns of brick. At the east end of this is the entrance to the extremely interesting edifice at the rear of the Temple of Augustus. A broad door opens into a large quadrangular court, whose heavy walls are indented by 5 great niches on the east and west sides. To the right a low door opens into the temple, while on the left another door opens upon a corridor with a ramp which ascends by several sharp turns to the summit of the Palatine. To the south of this court, and communicating with it by a broad door with a narrower door on each side of it, is a large atrium or quadriporticus. Four short L-shaped walls at the corners and two granite columns on each side separate the central space

WALL PAINTING, S. MARIA ANTIQUA

from the side aisles. The aisles at least were covered by a roof. The right aisle is connected by a door with the temple and by another door with a room on the south of the temple. The left aisle opens upon the corridor with the ramp already spoken of. On the south side of the quadriporticus are 3 rectangular rooms; of these, the middle one, which is the largest, has a great apse in its south wall.

The building was in all probability originally a library connected with the Temple of Augustus, and was transformed into the church of S. Maria Antiqua about the beginning of the VI Century. The walls and even the columns are covered with paintings, mostly Byzantine, with Greek inscriptions. In the apse is a portrait of Pope Paul I, 757 A.D. The walls on the right and left of the apse are a veritable palimpsest of early Christian art. On the right no less than 4 paintings of different periods have been superimposed. Among other paintings the figures of two angels give evidence of a young and vigorous art. The church was probably abandoned in the

IX Century in favor of S. Maria Nova, on the site of the Temple of Venus and Rome.

Under the great court are remains of a very large rectangular piscina built of brick with steps leading down into it at either end. The orientation of this and of some other traces of earlier buildings found beneath the temple does not correspond with that of the buildings just described, but with the Clivus Victoriæ. They are probably the remnants of imperial buildings of the time of Caligula.

Near the S. E. corner of the Temple of Antoninus and Faustina, at the depth of 3 meters beneath the pavement of the Sacred Way, the excavators came upon a very ancient tomb, which is of more than ordinary interest. A great earthenware dolium, covered with a slab of capellaccio, was found to contain a cinerary urn and 8 other small clay vessels. The cover of the former is adorned with ridges rudely resembling the rafters of a house. The urn contained some bits of bone, 2 grains of parched wheat and a bean, but no metal of any kind. The other vessels consist of 2 cylindrical jars adorned with intersecting ridges, one cup with a handle, one spherical cup and 4 flat dishes of varying shapes, of which the smallest has a crescent-shaped handle. These would seem to belong to a prehistoric necropolis of the VII or VIII Century B.C., or possibly older. It is interesting to know that in the spring of 1902 a well-preserved grave of tufa blocks of rough workmanship was discovered close to this cinerary tomb, while several others came to light not far away.

ARCHAIC STELE

# THE MASTODON AND MAMMOTH CONTEMPORARY WITH MAN

BY FREDERICK BENNETT WRIGHT

THE continuous reports which we receive from Alaska noting discoveries of more or less complete Mammoth skeletons, the Scientific Expedition sent out by the Imperial Academy of Sciences of St. Petersburg, in 1902, for the recovery of a fine Mammoth skeleton and the huge Mammoth head from Texas, which has just reached the American Museum of Natural History in New York City, bring the subject of the distribution of the Mammoth and Mastodon, the cause of their extinction and the question as to their contemporaneous existence with Man into special prominence at the present time.

## DESCRIPTION HABITAT AND GEOGRAPHICAL DISTRIBUTION OF THE MAMMOTH

The Mammoth, which is closely related to the present elephants of India and Africa, resembled those animals very closely. However, the long hair and underlying fine wool found on the Mammoth carcasses in Siberia show that they were adapted to a cold climate. They were clothed with 3 distinct suits: "the largest, rough, black bristles, about 18 inches in length; the next, a coat of finer, close-set hair, fawn-colored, from 9 to 10 inches long; and the last, a soft, reddish wool, about 5 inches long, filling up the interstices between the other hair, and enabling the animal to withstand an arctic cold" [*The Lenape Stone,* by H. C. Mercer, p. 8].

In general appearance the Mastodon very much resembles the Mammoth, their chief distinction being in the form of their teeth. The Mammoth (*Elephas primigenius*) has a large flat grinding tooth, while the Mastodon has a tooth bearing large conical projections.

In Europe and North America there were two species of Mammoth, *Elephas primigenius* and a larger species. In North America the larger species was *Elephas Columbi,* which corresponds to the larger species of Europe, *Elephas Meridionalis.* In North America the smaller species inhabited the northern part and the larger species roamed as far south as Mexico. For our present purposes it is not necessary to pay any attention to these finer distinctions so long as it is borne in mind that under the term Mammoth is included both of the species referred to above.

There is a general tendency to overestimate the size of the Mammoth. It is probable that the average size was above that of the present elephant, but possibly not much greater than such specially large elephants as Jumbo, who stood 11 feet high, or an African elephant reported by Mr. Thomas Baines, which measured 12 feet in height. The Mammoth skeleton in the Museum of the Chicago Academy of Sciences stands 13 feet as mounted, which would make him about 14 feet when alive. However, Mr. Frederic A. Lucas, of the U. S. National Museum, thinks that the specimen is mounted too high and that the height of the live animal was not more than

13 feet. The St. Petersburg skeleton stands only 9 feet, and the one in the Royal Museum of Natural History in Brussels 11 feet high. The principal basis for calculating the approximate sizes of Mammoths from their remains is the size of the thigh bones and tusks. Jumbo's thigh bone is 4 feet 1 inch, as compared with the thigh bone of the Mammoth in the Museum of the Chicago Academy of Sciences, which is 5 feet 1 inch. The latter is the largest complete skeleton which has been found, and does not represent the average. Mr. Lucas considers the Chicago Mammoth as belonging to the more southern type *Elephas Columbi*, which is the largest of the elephants, as noted above.

The tusks make a convenient criteria for determining the relative size of their possessors, especially as tusks are vastly more numerous than thigh bones, which decompose more rapidly. The average length of the tusks from full-grown Mammoths varies between 8 and 14 feet. The St. Petersburg skeleton carries tusks 9 feet 3 inches long and the Chicago specimen tusks 9 feet 8 inches long. Two of the largest tusks have been found in Alaska, one measuring 11 feet and weighing 200 pounds and the other 12 feet 10 inches. The great Mammoth head from Texas, now in the American Museum of Natural History, of New York City, however, holds the record, the tusks being 13 feet 10 inches long.

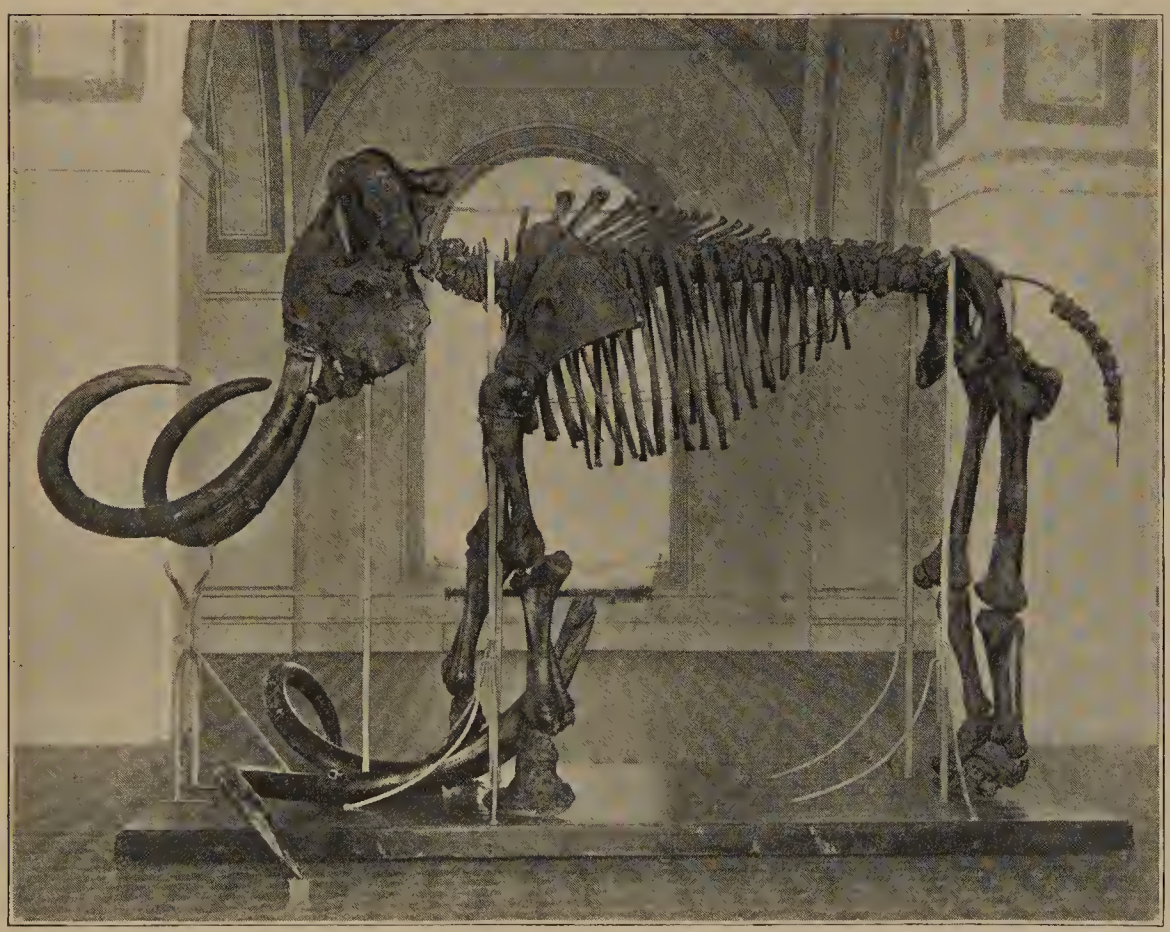
Perhaps the best description of the Mammoth is that given by a young Russian engineer, Mr. Benkendorf, who, while working on the Indigirka River, in Northeastern Siberia, in 1846, saw a perfect carcass washed out from the banks of the river by a flood. With great difficulty he succeeded in hauling it upon the land and examining it, but, unfortunately, it was washed away later. The following is his description of the animal:

Picture to yourself an elephant with a body covered with thick fur, about 13 feet in height and 15 in length, with tusks 8 feet long, thick and curving outward at their ends, a stout trunk 6 feet in length, colossal limbs of 1½ feet in thickness, and a tail naked up to the end, which was covered with thick, tufty hair. The animal was fat and well grown; death had overtaken him in the fullness of his powers. His parchment-like, large, naked ears lay fearfully turned up over the head; about the shoulders and the back he had stiff hair, about a foot in length, like a mane. The long outer hair was deep brown and coarsely rooted. The top of the head looked so wild, and so penetrated with pitch (und mit Pech so durchgedrungen), that it resembled the rind of an old oak tree. On the sides it was cleaner, and under the outer hair there appeared everywhere a wool, very soft, warm and thick, and of a sallow brown color. The giant was well protected against the cold. The whole appearance of the animal was fearfully strange and wild. It had not the shape of our present elephants. As compared with our India elephants, his head was rough, the brain case low and narrow, but the trunk and mouth much larger. The teeth were very powerful. Our elephant is an awkward animal, but compared with this Mammoth it is as an Arabian steed to a coarse, ugly dray horse. I could not divest myself of a feeling of fear as I approached the head; the broken, widely-opened eyes gave the animal appearance of life, as though it might move in a moment and destroy us with a roar.*

The partly digested food found in his stomach showed that his diet had been young shoots and cones of the fir and pine. In North America some teeth have been found in which there were fragments of food preserved, which showed that the Mammoth's diet on this continent was much

*From a partial translation of Dr. A. von Middendorff's *Siberische Reise, Band IV. Theil II. Erste Lieferung: Die Thierwelt Siberiens*, p. 1082, which appeared in an article by W. Boyd Dawkins, on the *Range of the Mammoth*, in *Popular Science Review*, Vol. VII, 1868, p. 282.

THE MASTODON. [FROM A DRAWING BY J. M. GLEESON.]



THE MAMMOTH SKELETON FROM SIBERIA NOW IN THE MUSEUM OF THE ACADEMY OF SCIENCE IN ST. PETERSBURG.

the same as in Siberia, viz., twigs of spruce, white cedar and other northern trees and bushes.

Mr. Robert Bell has inferred the habitat of the Mammoth from the shape of its tusks. He believes that these animals must have preferred tundras, open barren lands and open woods, because the great curve in the tusk would prevent their progress in dense woods. To support his reasoning he states that:

> In 1884 I observed on Nottingham Island, in the Hudson Strait, a curious fact bearing on this question in connection with the antlers of the reindeer. On the mainland, where these deer may require to traverse the thick forest in some part of their migrations, their antlers, although much larger and longer than those of the woodland reindeer or caribou, are straight at the tips and of such a form as to be readily dragged through branches of the trees; but on the large island referred to there are no trees of any kind and the antlers of the deer are more spreading, while the tines are strongly curved or hooked. . . . The peculiarities of the tusks of the Mammoth, which have been already referred to, would not only prevent the creature from traveling in thick woods, but they would also render the tusks useless for digging up trees, which is the principal use to which both African and Indian elephants put their straighter tusks. These characters would also indicate that the Mammoth was adapted only for living where it was not necessary to dig out the roots of trees and to pull them down, but in some region where he might obtain all the brush he required, as he could on the extensive northern plains of both continents in summer, as well as among the small branchy trees at the edge of the forest in winter. The fact that in this habitat the ground would be frozen for the greater part of the year is another reason why he would not use his tusks for digging.*

Mammoth bones have been found associated with those of the Mastodon, the woolly rhinoceros, horse, bison, cave bear, wapiti and musk sheep. The bone caves of Western Europe have been specially rich in accumulations of these bones of different mammals.

The present range of the two surviving species of elephant is restricted to Southern Asia and Africa from the southern edge of the Sahara Desert to Cape Colony, its southern limit being due to the exterminating influence of the advancing civilization

The accompanying map shows at a glance the approximate limits within which the Mammoth and Mastodon ranged over Europe, Asia and North America. Roughly speaking, they roamed over England principally south of Scotland; over Northern Europe and as far south as the Pyrenees, Rome and Northern Greece; over Northern Asia, and from there into Alaska, from which point they migrated as far south as Southern California, Northern Mexico and the middle of Alabama, and as far east as New York. North of Lake Ontario and east of Hudson Bay no remains have been found to my knowledge, but as there has been little chance for discovering their remains, if they exist in this region, traces of their former presence here may yet be found.

The elephant family seems to have appeared first during the Miocene epoch in Southeastern Asia, from which place in later times new species migrated into Europe, Africa, Northern Asia and North America. To the latter place it was by way of Behring Straits, which in early Pliocene times was an isthmus connecting the two continents. The depth of water

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**Bul. Geol. Soc'y of America,* 1897-98, Vol. IX, pp. 382-383. ***Mammoth and Mastodon Remains,*** by Robert Bell.

SKETCH MAP SHOWING THE APPROXIMATE RANGE OF THE MAMMOTH, THE DOTTED PORTION INDICATES THE REGION IN WHICH HIS REMAINS HAVE BEEN FOUND

here is now only 180 feet, so that a slight elevation of the land would accomplish this result.

The abundant remains found on the Aleutian and Pribilof Islands, which are now widely separated from the mainland, show that there must have been an extensive elevation in the region of the North Pacific during the time when the Mammoth roamed over Siberia and Alaska. The depth of the sea between Alaska and the Pribilof Islands averages less than 240 feet, so that a slight elevation would lay bare a great area of what is now sea bottom, over which the Mammoth could freely roam.

Although Mammoth remains have been found in considerable numbers over an exceedingly wide area, as noted above, yet by far the most celebrated locality is Northern Siberia, where the tusks are so numerous and well preserved that the ivory trade has been a great attraction to the traders and adventurers for several centuries. Here the physical conditions have been specially favorable for the preservation not only of the bones and tusks, but also, in some instances, of the carcasses themselves.

In Europe the remains have generally been found in bone caves, peat bogs and river bottoms; in Russia and Siberia in loess deposits and the frozen earth of the Arctic Tundra and delta deposits along the Arctic Ocean and the islands, especially the New Siberian Islands, off the Siberian coast. In North America they have been found in the flood plains of the Yukon and Mackenzie Rivers, the Pliocene deposits of California, the peat bogs in Southern Canada and the United States, in deposits laid down at the close of the Glacial period, showing that he followed up the retreat of the ice, and in the great bone licks of Kentucky and Tennessee, where herds of the larger mammals used to congregate. In the United States Mastodon remains are numerous, especially in the central portion, the deposits at Kimmswick, near St. Louis, being the most noted. In tropical India abundant remains of fossil elephants have been found, which De Blainville refers, with some doubt, however, to the same species as the Siberian Mammoth.

### THEORIES TO ACCOUNT FOR THE EXTINCTION OF THE MAMMOTH

A host of theories have been advanced to account for the apparently sudden extinction of the Mammoth. James Geikie suggests that one of the principal causes of their extinction in Northern Siberia was that they were mired in the Tundra, which is very treacherous toward the latter part of the summer. Moss and lichens creep over the great snowdrifts which accumulate during the winter, and thus protect them from melting until some exceptionally warm season, when this compact snow or ice melts, leaving the surface apparently solid, but forming a trap into which the heavy animals would readily fall.

Mr. Robert Bell suggests the following theory to account for the extinction of the Mammoth in Siberia: During the winter the Mammoth would seek shelter within the forest line, but with the opening of spring he would migrate to the open country of the North, where he could browse on the small trees which lined the river courses to the Arctic Ocean. With the return of winter they would again seek the forest belt for protection from the winter winds. He believes that in time these migrations would become a fixed habit "and it would be difficult or impossible to overcome the inertia of long-fixed habit," so that, as the climatic conditions became more severe and the forest belt receded toward the South, as is proved by

abundant evidence, the migrations would become longer and the winters, which in this region are often preceded by severe snowstorms, would come upon herds of Mammoths when they were still a long distance from the protecting forest belt. These herds, following down the great rivers to the Arctic Ocean, might also be induced to remain too late in the season by the modified temperature caused by the large amount of warm water being brought down by the rivers. For this reason they might stay until late in the autumn and be caught in one of these early winter storms and perish. He cites numerous cases to support this theory, one where an enormous herd of reindeer perished during a single storm. On the Island of Akpatok, in Ungava Bay, a whole herd of reindeer perished from starvation during one storm, when a heavy snowfall was followed by rain, which formed a crust, thus cutting off the supply of moss. This island has never been restocked since that catastrophe.*

Another theory which has been advanced as a potent cause for the extinction of the Mammoth in Siberia is, that herds of these heavy animals, in attempting to cross the ice of the Northern rivers, broke through and were drowned, and their bones washed down to the Arctic coast and the islands of the New Siberian group.

Another theory, which, however, applies only to Siberia, has been put forward by Prof. G. Frederick Wright. From his researches in Siberia and Turkestan he has come to the conclusion that a great inland sea covered Western Siberia and Turkestan and "perhaps extended through the Sungarian depression," so as to cover the Desert of Gobi, at the same time that the Mammoth was living in Eastern Asia. Such a vast body of water would greatly modify the climate of the higher land in North-eastern Asia. So that, during this time, the Mammoth could have ranged freely to the Arctic Ocean under genial conditions. The re-elevation of Central Asia and the consequent draining of this inland sea would gradually bring on the severe conditions of a continental Arctic climate, with its enormous range of temperature, as is now the case at Verkhoyansk, in Siberia, where the thermometer registers 90° below zero in winter and as high as 90° above in summer. This change of climatic conditions might have been too rapid to permit the Mammoth to adjust himself to the change, and the final result would be his extinction.

No single cause is adequate to account for the sudden disappearance of the Mammoth and the Mastodon, but it seems to have been a frequent occurrence in geological history, in fact, so frequent that it might be stated as a law, that the life of a species varies in length according to its size and the complexity of its structure. Throughout geological time the great families of both animal and plant life, especially in the more complex forms, have passed through some period of special development when not only the number of species, but also the number of individuals in each species, has increased greatly, but after a short time there has been a thinning out of those species which have had a special development in size or the complexity of their organism. This is well shown by the sudden disappearance of the huge, ungainly reptiles which had such a remarkable development in the latter part of Mesozoic time, when some of them, such as one species of the genus *Elasmosaurus*, produced animals 45 to 50 feet long, which

*See *The Occurrence of Mammoth and Mastodon Remains around Hudson Bay,* in *Bul. Geol. Soc'y of Am.,* Vol. IX, pp. 369-390.

had necks 22 feet long, containing over 60 vertebræ, or the great bird-like *Pterosaurs,* the span of whose wings was 20 feet.

It would seem as if the elephant belonged to a genus of the mammalian family whose size had developed abnormally, and, as seems to have been the case with similar developments of genera and species in other families, his life history was short. In this case our present elephants represent the remnant which, even if it were not for his destruction by man, would soon become extinct. The great size of the Mastodon and Mammoth, possibly his lack of ability to adapt himself to changing environment, together with the general tendency stated above, the reason for which is unknown, is as satisfactory an answer as can now be given to the question concerning the reason for the sudden disappearance of these huge mammals in the Northern Hemisphere.

### EVIDENCE OF THE CO-EXISTENCE OF MAN, MAMMOTH AND MASTODON

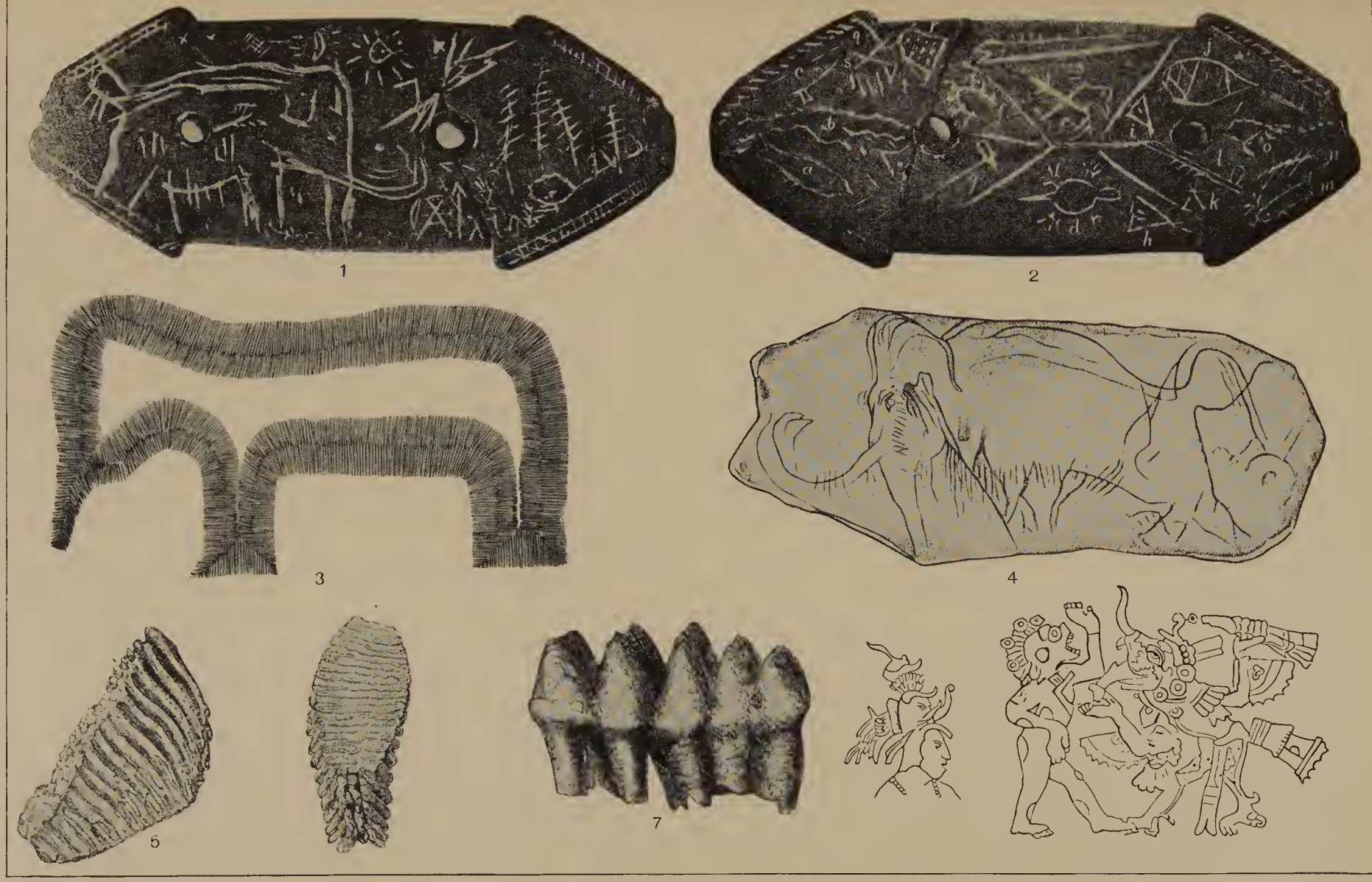
In Europe the evidence that prehistoric Man and the Mammoth were contemporaries is of two kinds. First, the association of Mammoth bones with human bones and implements, and second, drawings and carvings of the Mammoth, which were evidently made from life.

The first accurate account of discoveries showing the association of Man and the Mammoth appeared in 1834, in a report made by Dr. Schmerling, an anatomist and Palæontologist, stating the results of his researches in the caverns near Liége, Holland, during the years 1833 and 1834. He notes finding, in different caverns at Liége, human bones mixed with those of the "elephant" (Mammoth), cave bear, hyæna and rhinoceros, as well as some animals which still existed in the region. All the bones seem to have been swept into the caves at the same time during some flood. "In the Engis Cavern, distant about 8 miles to the southwest of Liége, on the left bank of the Meuse, the remains of at least 3 human individuals were disinterred. The skull of one of these, that of a young person, was imbedded by the side of a Mammoth's tooth. It was entire, but so fragile that nearly all of it fell to pieces during its extraction. Another skull, that of an adult individual, and the only one preserved by Dr. Schmerling in a sufficient state of integrity to enable the anatomist to speculate on the race to which it belonged, was buried 5 feet deep in a breccia, in which the tooth of a rhinoceros, several bones of a horse and some of the reindeer, together with some ruminants, occurred."[1] This is but one of a number of caves in which this commingling of remains was found.

Much more common, however, than the human bones were the flint knives, etc., found in the floor deposits of these caves. Schmerling explored 40 of these "fossiliferous caves," as he calls them, and reported human bones to be the exception, but flint implements to be almost universal. Concerning these implements he says: "None of them could have been subsequently introduced, being precisely in the same position as the remains of the accompanying animals."[2] Although the theories which Dr. Schmerling put forth in a vain attempt to reconcile the geological, zoölogical and anthropological views of the time are far from satisfactory, yet his observations of facts and conditions are of the highest importance, and their accuracy has

[1] See *Antiquity of Man,* by Lyell, pp. 67, 68.

[2] *Researches sur les Ossements fossiles de' couverts dans les Covernes de la Province de Liége,* 1833-1834, by Schmerling, Part II, p. 179.



I, THE LENAPE STONE, SHOWING THE SIDE BEARING THE DRAWING OF A MAMMOTH; 2, REVERSE SIDE OF THE LENAPE STONE; 3, THE SO-CALLED ELEPHANT MOUND IN WISCONSIN; 4, THE CELEBRATED MAMMOTH CARVING FROM LA MADELEINE; 5, 6, A MAMMOTH TOOTH; 7, A MASTODON TOOTH; 8, 9, MEXICAN HEAD-DRESSES WHICH BEAR A STRIKING RESEMBLANCE TO ELEPHANT HEADS

been attested by later scholars, notably by Lyell [See *Antiquity of Man,* by Lyell, p. 72, *et seq.*], who visited the locality 26 years after Dr. Schmerling and after many of the caves had been "annihilated."

In 1864 M. E. Dupont explored 43 caves in Belgium, and in 25 of these he found traces of man's existence. In the lowest of the 3 divisions into which he separated these cave deposits he found flint implements, Mammoth and rhinoceros bones, and in one cave, that at Trou Magrite, rude carvings on reindeer bone.

Besides the examples cited at some length above, the caves of England and France have furnished much evidence showing conclusively that Man and the Mammoth were contemporaneous in Western Europe and the British Isles.

In Siberia we have the most striking and indubitable proof of the co-existence of Man and the Mammoth. On the Obi River, near Tomsk, in 1896, Prof. N. Th. Kashchenko found the "remains of a Mammoth 12 feet below the surface of a cliff which stands 136 feet above the present level of the River Tom. Only a few small bones of the skeleton were missing, and with it were associated 30 flint knives, besides scrapers and about 100 flakes. The large bones were split in the usual way for the extraction of the marrow, and there were other clear indications of the presence of Man. . . . The position and various other circumstances exclude any recent date for the find."*

More interesting, however, than the finding of Mammoth bones associated with human implements in the same deposits are the carvings of Mammoths which have been found in Europe. The most celebrated of these is that from the cave of La Madeleine. This carving was found in 1864, in the cave of La Madeleine, Perigord, France, by M. Louis Lartet. The engraving is on a piece of Mammoth ivory and has a very lifelike appearance, as will be seen by examining the accompanying illustration. It was broken into 5 pieces, but when these were placed in their correct positions the outline of the Mammoth was remarkably distinct. It shows a high degree of skill, and must have been drawn by someone who had actually seen the animal represented. M. Lartet has several other less perfect carvings of Mammoths in his collection, which have been gathered from Northern France.

From what has been said, it is evident that there is abundant evidence to prove conclusively the co-existence of Man and the Mammoth in Europe. However, when we turn to North America our evidence is more scattering and less definite.

The relation of Man to the Mammoth and Mastodon in North America is confined to the evidence furnished by a few drawings, one example of Mastodon bones having been found in connection with human implements, and a general probability that they must have existed together on this continent, on account of the recent date of the disappearance of the Mastodon, as shown by the character of the deposits in which his remains have been found. There are also a few Indian legends which may possibly have had their origin in the minds of a people who had seen these huge animals alive.

The drawing which has attracted the most attention is that on the Lenape Stone, which was described and championed by H. C. Mercer in

*Man Past and Present,* p. 269.

his book *The Lenape Stone, or The Indian and the Mammoth* [New York, 1885]. This stone was discovered in 1872, in Bucks County, Pennsylvania, and remained lost for 10 years in a large collection of arrowheads, spear-points, axes and broken banner stones which Mr. Hansell had collected. In 1881 the collection was sold to Mr. Paxson, who recognized the peculiarity of this stone and brought it to the knowledge of Mr. Mercer and other scientists. The evidence of the authentic character of this stone is very good. The principal objection which has been raised is that the drawing is too good, and very much resembles the famous carving of the Mammoth from the cave of La Madeleine in France. For a full discussion of the merits of this stone I would refer to Mr. Mercer's book, cited above.

The stone represents an encounter between a Mammoth and 4 men. "In the sky overhead, and as if presiding over the event, are ranged the powers of heaven: forked lightning flashes through the tree-tops, and from between a planet and a crescent moon, beyond which we seem to see a constellation (represented by a series of cross lines) and two stars, the Sun's face looks down upon the scene. Four human forms confront the monster; the first holds in his right hand a bow, from which the arrow just discharged is sticking in the side of the enraged beast, and in his left, if it is not planted in the ground, a long lance; a second warrior, with head-dress of feathers, stands farther to the right; and still farther, and near what may perhaps be called a rock, a third sits upon the ground, apparently smoking a pipe. A fourth figure is easily distinguishable, trampled under the fore feet of the Mammoth." Although Mr. Mercer considers that the animal represented is a Mammoth it is quite as possible that it is a Mastodon.

There is in the possession of Mrs. B. W. Ritter, in Durango, Col., a piece of pottery, probably made by the Cliff Dwellers, which bears the painting of a figure representing an animal belonging to the elephant family and probably a Mastodon. This piece of pottery, which is $3\frac{1}{4}$ inches in diameter and $4\frac{3}{4}$ inches high, was found in Montezuma Valley. Some drawings found in Mexico would indicate that they also were acquainted with a species of elephant, some of the headdresses being representations of a proboscidean. In Wisconsin, the so-called "Elephant Mound" is very interesting in this connection, although it is somewhat uncertain as to whether or not the animal represented belongs to the elephant family.

In 1886 Prof. J. M. Clarke reported finding the bones of a Mastodon associated with human relics in Attica, N. Y. Four feet below the surface of the ground, in a black muck, he found bones of the Mastodon, and 12 inches below this pieces of pottery and 30 fragments of charcoal. This seems to be the best single piece of evidence which we have of the contemporaneous existence of Man and the Mastodon. There seems to be no direct evidence of the existence of Man and the Mammoth in North America, the Mastodon having continued much later than the Mammoth. However, later discoveries may change the possibility of the Mammoth's co-existence with Man on this continent to a probability or even a certainty.

# EDITORIAL NOTES

**AFRICA:**—EGYPT: Mr. Howard Carter, the Inspector-General of Antiquities in Upper Egypt, recently discovered the tomb of Thothmes IV, in one of the southeastern cliffs of the Bibân el-Mulûk. The plan of this tomb is similar to that of Amenhetep II. It has one painted chamber. The doorway of the sarcophagus chamber had been closed with squared stones plastered and sealed with a stamp-seal "bearing the sign of a jackal above 9 prisoners with their arms tied behind them. From an inscription in the tomb, written in hieratic script, it appears that the funeral furniture had been partly plundered previous to the VIII year of King Horemheb, for in that year—the latest of that king of which we have any record—the inscription tells us that the burial was 'renewed' by the Superintendent of the Treasury by the order of Horemheb, and traces of this 'renewal' were found in the repairs of broken vases, etc." This tomb was again plundered at some later date and the stone vases and glazed ware broken. The most important object, however, is the front of the king's triumphal chariot "embossed with scenes representing the monarch seated in his chariot and slaying his enemies." This is a very artistic work and Mr. Percy E. Newberry thinks it will rank among the most splendid specimens of Egyptian art. The number of antiquities found at this place were so great that it was necessary to employ 73 men and boys to carry them from the tomb to the Government House. The money for this work was furnished by Mr. Theodore M. Davis, who will also pay the expense of publishing the results of these valuable excavations.

**ASIA:**—INDIA: Part I, of the report of the expedition to Perak, and the Siamese Malay States, 1901 to 1902, undertaken by Mr. Nelson Annandale and Mr. Herbert C. Robinson, under the auspices of the University of Edinburgh and University College, has just appeared. It contains an interesting section of observations as to the primitive beliefs and customs of the Patani fishermen. These people believe that every boat has a soul of its own. There are also a number of legends contained in the book which is well illustrated.

**ASIA MINOR:**—RHODES: The first report of the excavations in the ruins at Lindos, on the Island of Rhodes, which have been carried on by Drs. Blinkenberg and Kinch, Danish archæologists, has just appeared. They excavated first the Temple of Athene, which is on the highest point of the island. The temple is in Doric style and dates from about 400 B.C. A few marble statues were found, but were for the most part very badly disfigured. "An inscription on the marble base, at one time used for a statue, gives an important clue to the origin and period of Boëthus, whose works at Rhodes are mentioned by various writers."

Many inscriptions were found giving the names of artists and statues. On one stone there were two long laws concerning the management of the temple property "and the regulations concerning the right of entry and sacrilege. There is a complete list of all the leading officials and priests of Lindos, about 150 in all." Just outside the temple a heap of terra-cotta figures and fragments of vases were found which appear to have been votive

offerings that were removed from the temple to make room for new gifts. Most of these were terra-cotta women either sitting or standing.

Some of the finds in the Sanctuary of Athene indicate that, at an earlier age, there was considerable intercourse with Phœnicia, Cyprus and Egypt as many objects were evidently imported from these places. Also Assyrian and Egyptian influence is seen in many of the works of art. The discovery of these objects of Egyptian origin is explained by Herodotus who tells us "that Amasis sent rich gifts to the temple." As the reign of Amasis lasted from 569 to 525 B.C. we have a clue to the age of these objects. The excavations have been discontinued for the summer, but will be continued next autumn.

Sir H. H. Howorth is of the opinion that the prominence given to Asshur, who displaces the so-called Elder Bell from the epic, shows that the story is an Assyrian and not a Babylonian composition and not a parallel to the cosmogony of Genesis, but is a glorification of the Babylonian god at the expense of all others.

**CENTRAL AMERICA:**—HONDURAS: Dr. Thomas Gann gives the results of his explorations, which he has been carrying on in Honduras since 1896, in the XIX Annual Report of the Bureau of American Ethnology, Part 2. His investigations were carried on near the village of Corozal in the northern district of the colony. Some years ago about 500 acres of land were cleared in this section and revealed between 40 and 50 mounds, which were largely built of blocks of limestone, many of which were squared. These mounds were located on an extensive plateau 50 to 100 feet above the sea level and about a mile inland. Dr. Gann found 32 of the original number still intact when he began his excavations in 1896. The 16 of these which he has thoroughly explored are carefully described. He divides the mounds into three classes, as follows:

1. Mounds constructed over buildings.
2. Mounds containing, superficially, 2 broken pottery images, and, more deeply, or on the ground level, painted pottery animals either within or immediately adjacent to a pottery urn.
3. Mounds which constitute the solitary representatives of a class, and those of unknown or doubtful use.

In one of the mounds of the first class he found that the walls of the building, over which the mounds were constructed, were covered with painted stucco figures and hieroglyphics, all of which, together with colored reproductions of the same, are to be found accompanying his paper. He thinks that the stucco figures resemble "perhaps, more closely the bas-reliefs of Palenque and Lorillard City than those of Yucatan and Honduras." He believes that the mound-covered temple was covered up with earth by the Indians, who built them, possibly to preserve them from despoliation by the Spanish. He places the date of their erection at the end of the XIV or the early part of the XV Century.

The pottery and animal effigies found in the second class of mounds were often well colored.

The principal mound of the third class described is a large central one, "conical in shape, 57 feet in height, 471 feet in circumference and is built of blocks of limestone held together with mortar." To the south of this mound and continuous with it is a circular mound 100 yards in diameter. Dr. Gann considers this mound to have been "a lookout station and a fort."

This mound belongs to a series of other mounds which do not average more than 50 feet high, and constitutes a chain extending for nearly 150 miles from Chetumal Bay, "first following the coast line, then trending inland in a southwesterly direction. The intervals between them are in no case greater than 12 miles or less than 6 miles." This chain was doubtless used for signaling. By experiment it was proved that fires on these different mounds could be easily seen from station to station over the intervening brush.

**EUROPE:**—FRANCE: M. Edouard Piette has described a fragment of bone from Mas d'Azil, which has carved on one side of it an animal of simian type standing upright, and on the other side the figure of a man with other animals. He also has some statues from Mentone "representing individuals with negroid features and marked steatopygy." These are of special interest as there has been a recent discovery in the caves at Mentone of two skeletons showing negroid characteristics. However, the authenticity of these skeletons is doubted by M. A. de Mortillet.

Jean-Vincent Laborde, the celebrated French anthropologist, who was for some time President of l'Ecole d'Anthropologie of France, died on April 8, of this year. He was born on December 4, 1830, making him in his 73 year at the time of his death.

ITALY: The recent excavations on the eastern slope of Mt. Vesuvius, which have been carried on by Professors Dall'Osso and Pais at San Marzano and Poggiomarino, show that some centuries before the eruption in the I Century there was an eruption which destroyed the villages on the mountain. Below the foundation walls of a villa which was excavated a stratum nearly 5 feet thick was found consisting mostly of volcanic ash. Beneath this stratum a number of prehistoric tombs were found. Another interesting point connected with these excavations was the fact that in the extensive villa excavated there were no signs of volcanic ash or lava showing that it was not destroyed directly by the eruption. This bears out Pliny's statement that during the eruption of 79 a strong south wind blew the ashes to the north side of the volcano, leaving the eastern slope perfectly intact.

**NORTH AMERICA:**—UNITED STATES: We regret to state that the UR EXPEDITION organized about 5 years ago, under the Directorship of Dr. Edgar James Banks, has been abandoned. Dr. Banks has been in Constantinople since January, 1901, trying to induce the Turkish Government to grant permission to excavate. He has been aided in his efforts by the United States Legation. The Director of the Museum at Constantinople, the Minister of Public Instruction and other officials of the Turkish Government have seemed to favor the granting of the Firman and have held out, from time to time, the hope that permission would be at once granted. During this time permissions have been granted to other persons, from other nations, to excavate. As Ur is the reputed birthplace of Abraham and the temple walls rise about 70 feet above the general level of the ruins, this is undoubtedly one of the most important sites in the Tigro-Euphrates Valley. Over $6,000 was contributed toward the expenses of the expedition, all of which has been expended for outfitting the expedition and maintenance of the Director and some of his assistants in Constantinople while waiting for permission to excavate. We sincerely hope the Expedition will be revived when more quiet times reign in the East.

# RECORDS OF THE PAST

VOLUME II SEPTEMBER, 1903 PART IX

Volume II

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Part IX

REV. HENRY MASON BAUM, D.C.L.
Editor

***

MR. FREDERICK BENNETT WRIGHT
Assistant Editor

SEPTEMBER, 1903

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**Owing to a change of printers from Philadelphia to Washington we have been delayed in sending out our August and September issues. We have now completed the change, and feel certain that our present printing arrangement with THE HENRY E. WILKENS PRINTING COMPANY will prove highly satisfactory to our subscribers, and that hereafter we will be able to appear on time.**

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LOOKING ACROSS FRONT OF MUIR GLACIER, ALASKA, SHOWING MORAINE IN FOREGROUND AND ICE OVERRIDING STRATIFIED SAND AND GRAVEL ON OPPOSITE SHORE, 1½ MILES DISTANT

# RECORDS OF THE PAST

VOL. II PART IX

SEPTEMBER, 1903

## GLACIAL MAN

BY PROF. GEORGE FREDERICK WRIGHT, D. D., LL. D., F. G. S. A.

AMONG the most sensational discoveries of the XIX Century were those relating to the capacity of ice for motion, and to the vast accumulations of glacial ice over certain portions of the earth's surface at a comparatively recent period. Principally through the labors of Charpentier, Louis Agassiz, and Guyot, between 1840 and 1850, it was discovered that the glaciers of the Alps moved down in their course at the rate of 3 or 4 feet a day in summertime, very much as any semifluid would do, and that in this movement the glaciers were carrying, to a lower level, rocks and any other earthy *débris* which might happen to be upon their surface or frozen into the mass. These same distinguished observers, also, ascertained that at some former period the alpine glaciers were immensely larger than at the present time, and had extended down the Swiss valley so as to fill it to the brim, pushing boulders from Mont Blanc up upon the Jura Mountains to the north to a height of 1,500 feet, and flowing around to the right and to the left as far east as Zurich, and to the west beyond Geneva, transporting boulders to a distance of fully 200 miles from the native ledges. In smaller dimensions glaciers descended the southern flanks of the Alps, and deployed far out in the valley of the Po. The glaciers still existing in the Alps are but the mere stumps of those which formerly covered and desolated all Switzerland and northern Italy.

Further investigations, continued with increasing interest up to the present day, have demonstrated that the Scandinavian glaciers formerly extended so as to fill the whole German Ocean, as they do now the Antarctic Ocean, and, joining with others, formed upon the mountains of Scotland, enveloped nearly the whole of Great Britain in their frozen grasp, and buried Holland, northern Germany, the whole of Sweden, and the larger part of Russia with their icy covering. Toward the southeast, Scandinavian

boulders were carried by the ice as much as 800 miles, to the vicinity of Kief. The total area in Europe covered by ice was about 2,000,000 square miles.

But most remarkable of all are the facts concerning the Glacial Period in North America, where about 4,000,000 square miles are found to have been covered with glacial ice, probably to a depth of more than one mile. The evidences of this movement in America abound on every hand. Glacially transported boulders from Labrador and the Canadian highlands north of the Great Lakes are distributed in great numbers down to the seacoast as far south as New York City and over the country westward down to a line running across Pennsylvania, southeastern Ohio, southern Indiana and Illinois, and northern Missouri as far as Topeka, Kansas, whence the border turns northwesterly nearly parallel to the Missouri River, and bends westward to Puget Sound, on the Pacific coast; thence following the coastline northward. The depth of the ice is ascertained from the discovery of boulders upon the top of Mount Washington (6,000 feet above sea-level), which must have been brought from localities a considerable distance to the north. At the present time Greenland is enveloped in glaciers of continental proportions covering nearly 500,000 square miles with a depth of probably more than one mile; while in Alaska the remnants of glaciers are 100 times larger than those still remaining in the Alps.

It should be borne in mind, however, that the glaciers are formed not by the freezing of standing bodies of water, but by the accumulation of snow. Wherever snow accumulates faster than it annually melts, a glacier will be in process of formation; so that in bringing before our imagination the conditions of the Glacial Period we must picture an excessive accumulation of snow over these glaciated regions, accompanied with a temperature so low that it failed each summer to melt it all away. The conditions, therefore, under which Glacial Man existed, may have been closely similar to those under which he still lives on the coasts of Greenland and in southeastern Alaska, or perhaps even in Switzerland, where vegetation flourishes even up to the very edge of glaciers of immense extent.

In the strict sense of the word, Glacial Man still exists in Greenland, Alaska, Patagonia, and Switzerland, as well as in many other places where glaciers still linger. But chief interest attaches to the evidence of man's existence in Europe and America during that great extension of ice which is properly referred to as the Glacial Period. As far back as 1847, the scientific world was startled, or rather would have been startled but for its incredulity, with the evidence adduced by Boucher de Perthes, of Abbeville, France, that both there and at Amiens, in the valley of the Somme, he had found rough-stone implements imbedded in undisturbed gravel deposits which were attributed to the Glacial Period. In 1858, Sir Charles Lyell, with Professor Prestwich and several other eminent English and French geologists, visited the localities, and became so thoroughly satisfied of the genuineness of the evidence that there has since been no room for doubt on the part of those who have properly studied the facts; so that Glacial Man has since that time been a pretty generally accepted fact with which anthropologists and archæologists have been compelled to reckon. The presentation of these facts, therefore, and of the accompanying facts relative to the Glacial Period, has become essential to those who would read all of the record of man's past history; and the study of glacial geology has become one of the most fruitful branches of archæological investigation.

[FROM WRIGHT'S *Ice Age in North America.*]

MAP OF GREENLAND SHOWING THE NARROW BORDER OF INHABITABLE LAND OCCUPIED BY THE ESKIMOS AT THE PRESENT TIME. [FROM WRIGHT'S *Greenland Ice-fields and Life in the North Atlantic*]

FRONT OF MUIR GLACIER SHOWING MORAINE DEPOSITED ON THE SIDE OF THE VALLEY

The human relics supposed to be of Glacial Age discovered by Bucher de Perthes and others in northern France consist simply of chipped flint implements; while the evidence of their Glacial Age is not direct, but inferential; for true glaciers seem never to have existed in the valley of the Somme, or indeed in any part of northern France. But the glacial period was pretty certainly characterized by many other things than glacial ice. Semiglacial conditions extended beyond the border of the ice, producing results which can still be fairly well interpreted. Evidently there was an increase of rainfall beyond the border of the glaciated region, producing increased floods in the streams; while the cooler climate caused accumulations of river ice far in excess of anything now known in those regions. The spring freshets and ice-gorges of the time were certainly of enormous proportions. As a result of this, there were deposits of gravel along the borders of the streams far in excess of anything which now occurs. Such deposits are specially prominent at Abbeville and Amiens, where they are utilized, at the present time, by the railroads to secure ballast and for other purposes. In some places these gravel terraces reach an elevation of 90 feet above the river. It is in these gravels, where they have been undisturbed since the original deposition, that the so-called glacial relics referred to have been found.

An additional evidence of their glacial age consists in the character of the animal bones found in connection with them. These include those of the mammoth, rhinoceros, horse, and reindeer, all of which were characteristic in that region. On the whole, this evidence is entirely satisfactory to those who are familiar with the subject.

These discoveries of the relics of Glacial Man in northern France stimulated research all over Europe and North America. Abundant evidence was soon brought forward of man's existence in England during a corresponding period and in much the same condition of social advancement. Chipped flint implements were found in the high-level gravel terraces of various streams in southern England lying outside the glaciated region, but the evidence was still more abundant in various caverns which had been occupied as places of habitation. Of these, Kent's Hole, near Torquay, Devonshire, England, was one of the most celebrated.

This cavern had been explored as early as 1826 by the Rev. J. Mac Enery, a Roman Catholic priest, whose residence was near by; but, owing to his early death, and to the incredulity of that generation of scientific men, the story was neither credited nor published until 1859. The deposits in the floor of the cave, one chamber of which was about 60 feet square, consisted of a surface of dark earth a few inches thick, containing Roman pottery and other modern relics, associated with the bones of domestic animals. Below this was a stalagmite floor from 1 to 3 feet thick, formed by the dripping of lime water from the roof. Under this was a compact deposit of red earth from 2 to 13 feet thick,, containing flint and bone implements of various kinds, mingled with charcoal; while flint implements were also found in a breccia still lower than this. The animal remains below the stalagmite floor consisted of bones of the cave lion, cave bear, mammoth, woolly rhinoceros, horse, reindeer, and several others associated with them in the closing stages of the Glacial Period. Similar remains were found in various other caves in southern and central England; but, as in the case of the high-level gravels, the connection of man with the Glacial Period is here inferential, rather than direct. But the evidence was of such a cumulative character that there was but little chance for its misinterpretation.

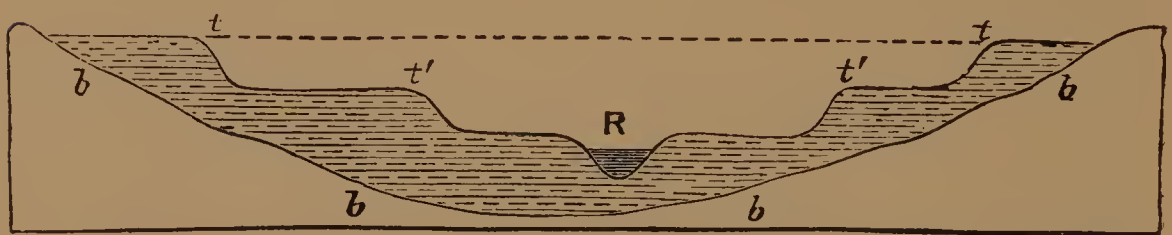
In America the quest for the evidence of Glacial Man was first successfully made by Dr. C. C. Abbott in the glacial delta terrace at Trenton, New Jersey, where, as early as 1875, he began to find so many roughly chipped stone implements in the talus of the bank undermined by the river that he could not resist the conviction that some of them must have come from the undisturbed gravel strata, which here rise 50 feet above present high-water mark. By constantly watching, for a series of years, the fresh exposures of the bank made by the undercutting of the stream, and others where artificial excavations were made for the sake of obtaining gravel, Dr. Abbott succeeded in finding a considerable number of implements in the undisturbed strata. Nearly all of these became the property of the Peabody Museum, Cambridge, Massachusetts, where they may be seen at any time by visitors. For many years Dr. Abbott's services were retained by Prof. F. W. Putnam, the Curator of the Peabody Museum, who early recognized the value of the discovery. Subsequently Professor Putnam engaged Mr. Ernest Volk to carry on systematic explorations over the whole area about Trenton which were rewarded by even more definite results than had been obtained by Dr. Abbott, the crowning discovery being that of a human tibia beneath such a depth of coarse gravel that its glacial character could not well be doubted by anyone. Mr. Volk's discoveries are, for the most part, in the American Museum of Natural History in New York City.

The importance of these discoveries at Trenton lay especially in the directness of their connection with the Glacial Period. The ice, however, of

the Glacial Period never came farther down the Delaware Valley than to the vicinity of the city of Easton, about 40 miles north of Trenton. Still the

GRAVEL PIT IN THE GLAÇIAL DELTA TERRACE AT TRENTON, N. J., IN WHICH MR. ERNEST VOLK FOUND A HUMAN BONE 21 FEET BELOW THE SURFACE. THE BONE SHOWS AS A WHITE SPOT WHERE LINES DRAWN ACROSS FROM THE RED MARKS INTERSECT

physical conditions are such that it is easy to demonstrate the presence of glacial ice in that latitude when the gravel at Trenton was being deposited. A very distinct terminal moraine belonging to the latest epoch of the Glacial Period occurs at Belvidere, a little above Easton. From this point down to Trenton, the Delaware River occupies a trough from a quarter to half a mile in width, with precipitous sides 200 or 200 feet in height, and has a gradient of 2 or 3 feet per mile. Into this trough or gorge the drainage of the melting ice, with its superabundant supply of northern gravel, poured in such torrents that it built up terraces far above the present flood-plain of the river. On reaching Trenton, the gorge suddenly opens into a broad valley at the head of tide-water. Here a delta 3 or 4 miles wide, and 50 feet above the present river level, was built up, forming the site of the present city. It is as distinct a result of the flooded stream of the Delaware when swollen by the water of the melting ice-sheet above Belvidere as could be asked. The effect and the cause are directly connected. Among the more distinct evidences of ice-action, however, are numerous boulders, 2 or 3 feet in diameter, derived from the upper part of the Delaware Valley, which are too large and too variously distributed in the deposits to have been brought down by anything less than the floating ice set free by the melting floods of the Glacial Period.




IDEAL SECTION OF A PRE-GLACIAL VALLEY FILLED WITH GLACIAL DEBRIS. *b*, BED-ROCK OF PRE-GLACIAL CHANNEL. R, PRESENT RIVER. *t* AND *t*$^1$, TERRACES DEPOSITED DURING THE GLACIAL PERIOD

Roughly chipped implements have been found in various other places in the United States in conditions similar to those at Trenton. One of the most well-attested and interesting discoveries is that in the Tuscarawas Valley at Newcomerstown, Ohio. This consisted of a symmetrically shaped flint implement, made from local material, which is an exact pattern of some which are found in the glacial gravels already referred to in northern France. The discovery was made in 1889 by Professor W. C. Mills, the present accomplished curator of the Ohio State Archæological and Historical Society of Columbus. It was taken by him from 16 feet below the surface in undisturbed strata of the terrace of glacial gravel which lines the Tuscarawas and Muskingum River as those already described border the Delaware. A glance at the accompanying map will illustrate the situation. The tributaries of the Muskingum River, like all the others flowing south in Ohio, rise in the glaciated region. The melting floods at the close of the Glacial Period gorged all those lines of drainage, and built up gravel terraces which now form one of their chief characteristics. Their connection with the Glacial Period is beyond all dispute.

Of the human skeletons presumably of Glacial Age, the most important are those of two individuals found in a cavern at Spy in the province of Namur, Belgium. These were discovered in 1886 by Messrs. Lohest and Fraipont, professors at the University of Liege. The remains consist of

GENERAL VIEW OF THE GLACIAL TERRACE AT NEWCOMERSTOWN, OHIO, SHOWING THE LOCALITY IN WHICH THE PALAEOLITHIC IMPLEMENT WAS FOUND BY PROF. W. C. MILLS, 16 FEET BELOW THE SURFACE. THE TWO MEN ARE STANDING BESIDE THE EXACT PLACE

TERRACE IN NEWCOMERSTOWN SHOWING WHERE PROF. W. C. MILLS FOUND A PALAEOLITHIC IMPLEMENT

THE SMALLER IS THE PALAEOLITH FROM NEWCOMERSTOWN, THE LARGER FROM AMIENS. EDGE VIEW. [FROM WRIGHT'S *Ice Age in North America,* LOANED BY D. APPLETON & CO.]

THE SMALLER IS THE PALAEOLITH FROM NEWCOMERSTOWN, THE LARGER FROM AMIENS. FACE VIEW. [FROM WRIGHT'S *Ice Age in North America,* LOANED BY D. APPLETON & CO.]

2 skulls, together with the jawbones and most of the other parts of the frame. One was apparently of a woman and the other of a middle-aged man. The accompanying photograph, taken by S. Prentiss Baldwin, Esq., shows well the peculiarities of the head. The eyebrows are very prominent, the orbits large, and the forehead low and retreating, but the capacity of the skull is larger than that of some existing races of men. The lower jaw is heavy, with almost no projecting chin; while the teeth are large, and the last molar is as large as the others. The thighbones were curiously curved, and the lower ends so fashioned that they must have walked with a bend at the knee.

The evidence of the connection of these specimens with the Glacial Period is similar to that fixing the date of the implements in Kent's Hole and other caverns in southern England. Below the floor of the cave there were 3 distinct bone-bearing beds, separated by layers of stalagmite. The skeletons were found in the lowest of these beds, associated with abundant remains of the rhinoceros, horse, bison, mastodon, cave hyena, and a few other extinct species, all of which were contemporaneous in Europe with the closing stages of the Glacial Period, and afterwards became extinct in that region.

The most recent additions to the evidence of Glacial Man are the implements found by Professor Armachevsky beneath the loess of southern Russia at Kief, and the skeleton found in a similar deposit in Lansing, Kansas, already described in RECORDS OF THE PAST for September, 1902, and April, 1903.

Much other evidence of similar import exists, but that already adduced is the most decisive, and is sufficient to establish several important points concerning man's antiquity and early condition. His antiquity is certainly that of the close of the Glacial Period. Man was already in the world during that unstable condition of the earth's crust which accompanied the melting off of the great ice-sheet from the glaciated areas of Europe and North America; but how much before that stage he may have been an inhabitant of that region we have not present data to determine. Fixing upon that point, however, we may determine his antiquity by the evidence bearing upon the date of the closing scenes of the Glacial Period. After 25 years of continuous research and vigorous discussion, there has come to be, according to Professor N. H. Winchell, one of the highest authorities [See *American Geologist,* September, 1902], a pretty general consensus that the conditions of the Glacial Period lingered over Canada and the northern part of the United States up to about 8,000 years ago.

The most conspicuous evidence of this late date is furnished by the shortness of the gorges below Niagara Falls and the Falls of St. Anthony, at Minneapolis. These gorges are each a little over 7 miles in length, and represent all the work done at these points by the Niagara and Mississippi Rivers since the Glacial Period. In the case of the Niagara River the erosion of the gorge below the falls represents the work done since that stage of the receding ice-sheet at which it first melted off from the Mohawk and St. Lawrence Valleys, permitting the drainage of the Great Lakes to take its present eastward course. At that time the falls began their recession at Lewiston, which they have continued up to the present. In the case both of the Falls of Niagara and of St. Anthony it is found that the rate of recession is about 5 feet per year. As the distance is 7½ miles, this would give 7,500

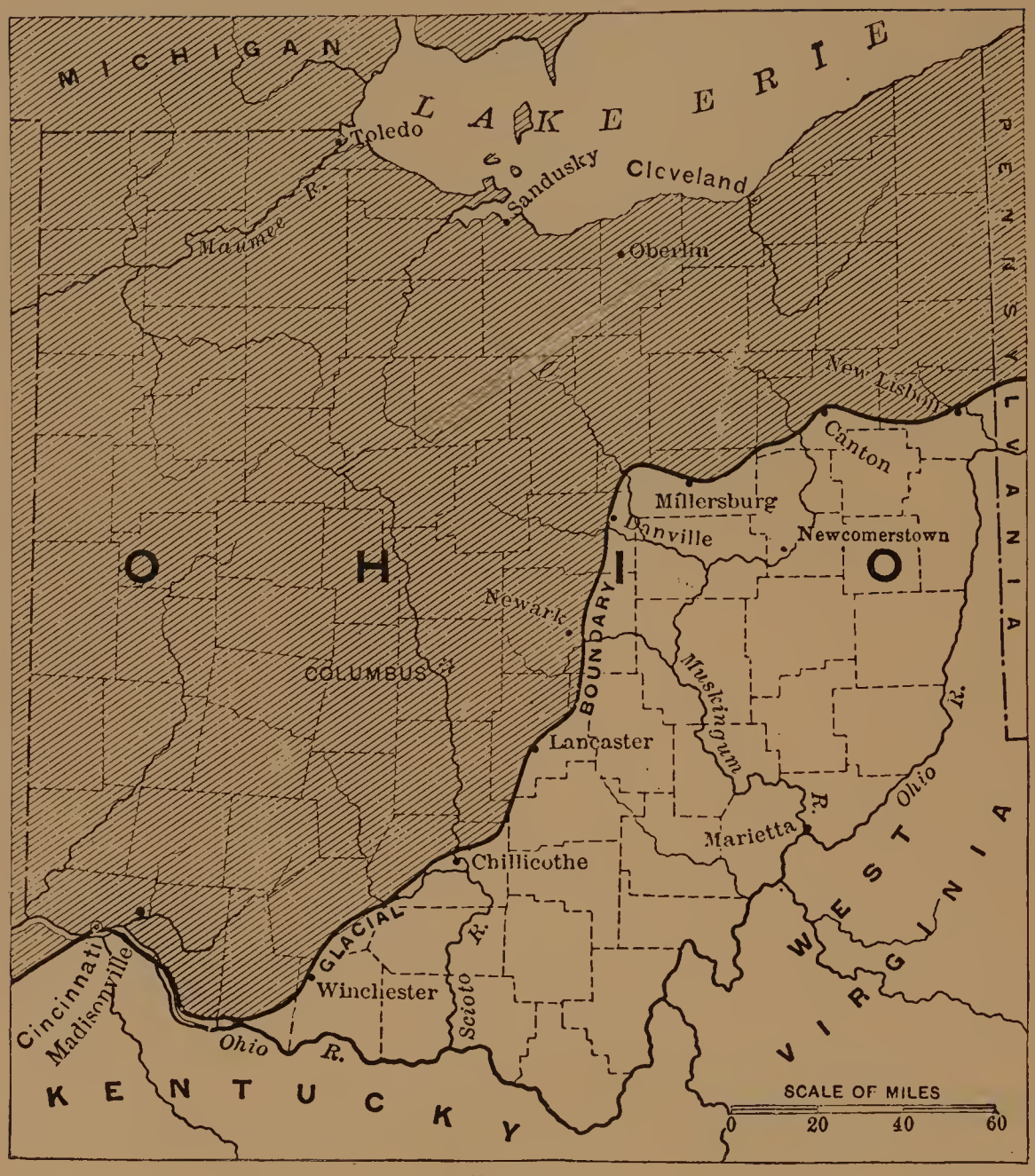



FIG. 70.

MAP OF OHIO SHOWING THE GLACIAL BOUNDARY AND ITS RELATION TO NEWCOMERSTOWN [FROM WRIGHT'S *Ice Age in North America.*]

years as the time required for the entire recession, on the supposition that the present forces have been approximately uniform, and that their action has been continuous. That this calculation is within 2,000 or 3,000 of the exact time, there can now be little doubt.

But this evidence of the recent date of the close of the Glacial Period is supported by a great variety of other considerations which point to a similar conclusion. Briefly stated, they are:

1. That the recession of the falls at Niagara and St. Anthony correspond in extent approximately with that of nearly all other postglacial waterfalls.

2. That all postglacial streams show a correspondingly limited amount of erosion in the enlargement of their troughs.

3. That innumerable glacial lakes and ponds have been but partially filled up with peat and sediment, and but partially drained by their overflow outlets.

4. That the glaciated surfaces of limestone rocks exposed to the action of the elements have been but slightly disintegrated and eroded. In those regions where glacial boulders rest upon such surfaces, and have protected the portions immediately underlying them, the pedestals upon which they stand are at most but 2 or 3 inches above the general level.

So far, then, as the antiquity of man is proved by his connection with the Glacial period, it is not necessarily much, if any, greater than that which is now proved by the antiquity of his civilization in the valley of the Nile and the Euphrates.

Nor is the light shed by the remains of man upon the early condition of the human race much more definite. The conditions and attainments of Glacial Man would not seem to differ very greatly from those of the Eskimo and the inhabitants of Terra del Fuego, who at present frequent the borders of the great glaciers of Greenland, Alaska and Patagonia, all of whom are still practically in the "Stone Age." It is therefore by no means uncertain that the low stage of development of Glacial Man which we have been considering may not have been contemporaneous with the high civilization which already existed in Mesopotamia long before the days of Hammurabi, and, as we are finding out in Egypt, before the time of Menes. The upshot of the whole matter seems to be that, aside from the remarkable physical discoveries and economical inventions of modern times, there is nothing new under the sun. The struggle for preëminence has gone on in the human race from the earliest times on the same broad lines. Variations in the intelligence and morality of tribes and races, combined with the possession of varying amounts of natural advantages, have produced corresponding inequalities of social conditions in all ages of the world.

MAN OF SPY

KASR

PLAN OF THE KASR MOUND SHOWING THE PROGRESS OF THE EXCAVATIONS UP TO JUNE, 1900

# EXCAVATION OF THE RUINS OF BABYLON

PART IV

ON March 25, 1900, Dr. Koldewey reported that in the filling-in in the rooms of the Temple of Nin-Mach, tables were always found of the kind previously described (payrolls of workmen); the number of these, however, appeared to him to be out of all proportion to the mass of dirt which had to be removed and did not warrant the clearing out of all the rooms. In the same filling-in have been found several more of the previously mentioned terra-cottas, and among these the upper part of one and the lower part of another figure. The accompanying drawing shows two of these parts, but it is to be noted that although they belong to the same type they do not belong to the same figure. From this is will be possible to get an approximate idea of the Temple Statue of Nin-Mach, a picture of which has not been found up to the present time, notwithstanding the fact that Dr. Koldewey had removed large masses of dirt both from the front and the rear of the Temple.

The gate of the North Front, like that of the Cella in the yard, is provided with 2 ornamental towers. Before the middle of the door a small altar of clay bricks was found. At the main gate just below the paving, at each side, a sacrificial (opferkepsel) composed of 6 bricks, one of which contained the picture of a dove made from unburned clay, and the other the remains of the bones of a dove.

The large exploring trench near the "Athelé" has also been completed. At a depth of 18 m. below the summit of the "Athelé" it (the trench) has brought to light the junction of the north wall and of the large canal. The entire mass of dirt, however, consisted mainly of parts of broken bricks. At about the center of the pile were found late graves. In one of these there was a small tablet of gold containing the crude (Sassanidian?) picture of a woman.

On April 20, 1900, Dr. Koldewey gives the following report concerning his excavations in the hill Amran-ibn-Ali:

So far the dirt consists of the graves made of clay bricks within the rooms of houses. The objects within are of a later Seleucidian-Parthian origin. The graves contain the customary vessels, lamps, small ornaments, but seldom gold or cut stones. In the last one we opened 12 statues were lying, almost all of them representing naked female figures; 2 were of alabaster, 2 of clay and 8 of bone — the latter were coarse and ugly, the alabaster figures pretty Grecian, and the clay statues quite old. This no doubt represented 2 and perhaps 3 burials. On the top was the layer (?) of burial fire(?).

The following Babylonian objects have so far been found in the dêbris: A seal cylinder, a piece of a large tablet, a fragment of a presentation document (in bad condition). In addition to these, on April 28, we happened upon the stock of a later (Grecian ?) pearl merchant, who had stored away, possibly hidden, in several baskets his working materials, consisting chiefly

of antique decorative objects, ornaments and parts of statues. The immense mass of small objects chiefly consists of smaller pearls made of agate, onyx, lapis lazuli, etc., some finished and others just commenced; among them are also some genuine pearls and amethysts (?), also many pieces of uncut agate, quartz, etc.

Of greater interest, however, is the following:

A large number of round plates made of two-colored agate and onyx, from ½ to 8 cm. in diameter, perhaps from the ornamentation of "polylither" statues; numerous parts of eyes, of which the lids consisted of lapis lazuli, the whites made out of white stone, and the iris from 2 to 3 different materials. All of these are fitted together in ring-shaped form. Pieces of hair, beard, eyebrows made of lapis lazuli, in part of delicate workmanship. The single strands and curls are made up of special pieces fitting together. Decorative parts of a staff of agate and paste fitting in a spiral form. Remains of a very fine Intarsie made of lapis lazuli the meaning of which is not clear. A flat pearl, 4 cm. wide, with a cuneiform inscription of 6 lines. 7 Egyptian scarabs and seals of paste. 30 Babylonian scarabs representing ordinary objects: — star, sun, priests offering up sacrifice. 7 seals with similar representations. 6 very small weights, mostly shaped like ducks. 28 small "Phallische Apotropæen," made of paste. 20 small glass pastes in part of very pretty workmanship. A beautiful small Greek Onyx-Intaglio, representing a standing female figure with a cornucopia and steering oar. 15 seal cylinders, mostly in bad preservation; among these is a large one, 3 cm. thick, and of fine workmanship, with cuneiform inscription, one with aramaic and a third which is very old, but much used. 5 club buttons of stone, among which is a very handsome one of polished jasper, shaped like a melon, and another of diorite with cuneiform inscription of 10 lines.

Also parts of a magnificent throne: (a) parts of a turned foot of syenite (?); (b) the projecting end of the back of a chair of quartz 15 cm. long, 8 cm. broad; (c) an iron rod which was doubtless placed in a bar between the feet of the throne, upon which were arranged a row of beautifully polished onyx ornaments; (d) a cylindric piece of lapis 6 cm. in diameter, doubtless also belonging to the throne; and finally (e) 6 round bars, 4 cm. thick, 20 cm. long, of which 2 are of a beautiful light-blue substance, and 4 of lapis lazuli. Of the last named cylindric lapis lazuli bars 2, each of which bears a relief, and cuneiform inscription, which are of gem-like workmanship. The one, shortened by 12 cm., reveals a standing god with a feather crown, in each hand lightening, and on the raiment 3 shields, as on the Schamach-resch-uzur relief; the left hand is holding the reins of 2 beasts lying in front of him. The workmanship is somewhat stiff, and contains 5 lines of cuneiform writing. The other one also shows a standing god, in a garb similar to the former; the left hand is holding a staff and ring on the breast, the right hand, hanging down, is holding on to the tail of a two-horned Dragon, the front part of which lies to the right side and in front of the god, and contains 8 lines of cuneiform writing. The piece is cracked in a number of places without, however, anything of importance missing. The workmanship is very fine and very beautiful. On the girdle are figures 4 mm. high, and on one of the 3 shields on the raiment horses are represented, which are 5 mm. high.

On July 10, 1900, Dr. Koldewey reported that the excavation in the

northern part of the Hill Amran had resulted in the discovery that the ruins of an important Babylonian edifice are here preserved at a great depth.

To the north we have driven a trench into the hill towards the south, the bottom of which lies at one-half the height of the hill, and in which the railroad runs.

Within the radius of the excavation made, the Hill consists of the following layers:—

1. Right at the top was a thin layer of old Arabian origin, almost without the walls of houses, but with a considerable quantity of burned rubbish; in this were found vessels with Arabic Inscriptions, Cufic coins and Hebrew magic bowls.

2. Under this one was a layer of no great importance, in which appear thin walls of houses made of Babylonian bricks in stucco; here were found Sassasnidian coins.

3. Under this again a layer about 5 m. deep, of houses made of clay bricks together with all the ruins, etc., of same; this layer stands upon (4) a very thick stratum 12 m. deep, through which run ashes, burned objects, and rubbish, together with single walls of houses made of clay bricks. There were found here, as in No. 3, Parthian and Seleucidian coins.

5. Under this again — at a depth of 21 m. below the surface of the Hill — lay the flooring of the Babylonian building which came to light in the deep trench which was made at the southern end.

Of this building there are still standing upright to a height of several meters, clay walls 3 m. thick. The flooring consists of burned bricks covered with asphalt. In the course of time this has raised up in several places, and the tiles of the uppermost flooring bear the seal of Nebuchadrezzar. For this reason I am inclined to think that the foundation of the building was laid before Nebuchadrezzar's time. In the southern wall a gate has been laid bare with an immense foundation for the cornerstone, but which has been lost — also a part of the adjoining room in which a "Postament" made of burned bricks, has been built into the clay wall. Below the clay walls and the lowest flooring is found a compact foundation of clay bricks which is 2 m. thick, and below this old building refuse reaching as far as ground-water. On the uppermost flooring we found the following: a gold earring, something made of a thin plate of gold, a knob made of thin plate of silver, a rose ornament made of stone, several oblong onyx-pearls and pieces of engraved shells with lotus ornaments and wings.

It is plain that the building was already in ruins prior to being filled up with rubbish, but it is not probable that recent collectors of bricks and antiques ever reached this point. This very fact makes it desirable to continue the work of laying bare the building, notwithstanding the big pile of rubbish, which is 23 m. high.

The northern deep trench has not revealed any sure traces of Babylonian buildings. Moreover, Parthian remains reached clear down to the ground-water, at which level lay a wall, made of broken antique bricks, and Parthian-Seleucidian graves.

Here also the rubbish was traversed by clay walls, between which was a thick stratum of graves, side by side and over and under each other.

In this trench were found somewhat below the surface of the railroad the "shock of pears," of which mention has already been made. In addition

decorative ornaments and terra-cottas, etc., were found in the graves, of which also mention has been made, and a pot containing about 60 well-preserved Seleucidian silver coins with the stamps of Demetrios, Antiochus, Epiphanes and Lysimachos. Of Babylonian objects were found: the head of a steer made of stone half its natural size, 2 fragments of so-called boundary stones, etc. The Babylonian bricks, always used in the Parthian graves, are all in exceptionally fine preservation. Most of them bear the stamp of Nebuchadrezzar. Babylonian square stones are also frequently used for thresholds and such as in the Parthian buildings. A large part of one of these has just been laid bare at the northern entrance of the trench. On the walls of the same, is a row of enigmatical sketches, which were made on a stucco trough supported by short stucco columns. The object of the building is not clear as yet.

### THE GODS ADAD AND MARDUK

One of the cylindrical lapis lazuli objects found by Dr. Koldewey represents the storm—and weather—, thunder—and lightning god Adad (Hadad). The flashes of lightning held in both hands plainly indicate this, and the accompanying inscription clearly confirms it. The cylinder bears a double inscription, one in 2 lines in Assyrian Cuneiform characters, which reads:

To the god Marduk, the great lord, his master, from Esarhaddon, the King of all, King of Assyria, in order that he may live, presented [etc., to the ending of the first line of this Assyrian inscription is an inscription in 3 lines in new Babylonian characters].

Treasure of the god Marduk*. Seal of the god Adad of the temple Esakkil.

The seal of lapis lazuli in question was accordingly a consecrated gift from the Assyrian King Esarhaddon [681-668 B. C.] to the City god of Babylon, the god Marduk, not, however, designed for him alone, but for his Temple Esakkil, and more especially for the god Adad, who together with the whole line of other gods inhabited a compartment or rather as we would call it, a chapel, in the interior of the large national sacred edifice Esakkil.

The second lapis lazuli cylinder shows the picture of a god, as given in No. 3, the picture of the god Marduk in the full glory of his appearance, with "broad" eye and ear, the symbol of his omniscience and with powerful right arm, the sign of his omnipotence.

The inscription, in 8 lines, engraved to the left of the picture, in new Babylonian cuneiform writing, reads:

To Marduk, the great lord, the powerful one, the most sublime, the high, the maker of all, the lord of lords, the sublime judge who determines the decision of the peoples, the lord of the lands, the lord of Babylon, he who dwells in Esakkil, to his lord, has Marduk-nadin-schum, the King of all, the sublime, his votary, in order that he may live, that his family may prosper that his lease of life may be long and his reign made sure, that he may throw down the land of his enemy and that he may ever walk before him in safety, a seal of glittering lapis lazuli, with magnificent gold carefully worked, an ornament for his spendid neck, caused to be made and presented.

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* Below the word which stands for "Treasure" (sa-ga) and above that standing for "seal (closer over the determinative before Kunukku) is seen a single perpendicular wedge. Did this number 1 serve for the purpose of registration?

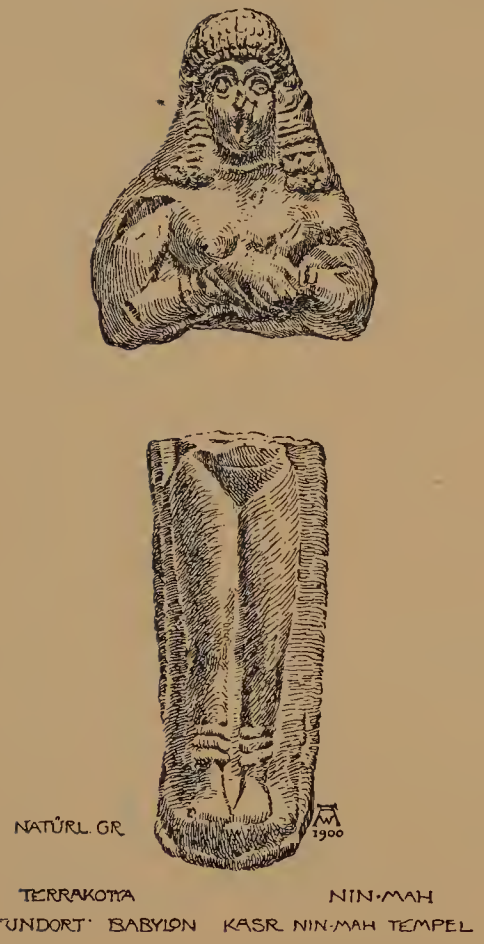



FIG. I.
TERRA COTTA FOUND IN THE TEMPLE OF NIN-MACH

FIG. 2
ADAD

FIG. 3
MARDUK

The King Marduk-nadin-schum, who presented this seal of lapis lazuli to the lord of the god Marduk, in order that he might wear it as an ornament around his neck, is doubtless the Babylonian king whose part the Assyrian King Shalmaneser II. [858-824 B. C.] took, when his younger brother Marduk-bel-usâte attempted to deprive him of his throne and land. In his 8 year, *i. e.*, 851, Shalmaneser came to the aid of Marduk-nadin-schum. Marduk-bel-usâte escaped with his followers to the mountains, but was killed in the year 850 by Shalmaneser.

### A NEW KANEPHORE FROM THE III MILLENNIUM B. C.

As Thucydides and Ælian relate, the tyrant Hipparchus was murdered in the year 514 B. C. by the 2 Athenian youths, Harmodius and Aristogiton at the feast of the Panathenäen, because he had deprived the sister of Harmodius, who had been lawfully chosen for the honorable office of Kanephóros, or "basket carrier," at the Panathenäen Feast, of this office, and by so doing had mortally insulted her brother. The story shows what great distinction was given to the office of a Kanephore serving the public cult. In fact only the daughters of the first Athenian families were honored with this exceptional distinction. On the occasion of the most important Athenian celebrations, specially at those of the Panathenäen, the 2 Kanephores led the procession, holding baskets on their heads, in which lay the wreaths of flowers of those offerings of sacrifice, as also other objects pertaining to the sacrifice, and also hidden among these the knife which was to be used for the slaughtering of the victim. But not alone at the feast of the Panathenäen did such noble maidens figure as basket-carrying priestesses, but we also find them in religious processions in honor of Zeus and Dionysos, of Demeter and Artemis, and other gods. At private sacrifices the daughter of the house acted as Kanephore. With the Panathenäen the baskets were of gold, otherwise of reeds. By Ptolemäus II. Philadelphus this rite was also introduced into Egypt.

The graceful posture of such an aristocratic maiden, holding upon her head a basket with both hands, and in addition the prominent position assigned to the Kanephores at public worship, combined to make her a pleasing subject of representation for the plastic arts. Both of Polyklet, as also from Skopas, Kanephores are known, and specially were the bronze Kanephores of Polyklet, which represented girls of moderate size, who with upheld hands carried upon their heads baskets filled with sanctified objects renowned as works of art of the greatest beauty.

What we have just stated must suffice to recall to mind what we know from classical antiquity regarding the Kanephores. Even to the Greeks the origin of this ritualistic custom was not known; but that it dates back to very early times is clearly shown by the fact that it was already instituted by the founder of the Panathenäen Feast, the hero, Erechtheus or Erechthonius.

In view of these statements it is doubtless of interest to know that in the Babylonian ritual the Kanephores also took a prominent part from early times.

The oldest Babylonian representations of Kanephores are bronze statues which were found by the French in Tellô, the ancient Lagash, the seat of the

FIG. 4

FIG. 5

KANEPHORES.

Priest-Prince Gudea, and of which 2 are depicted in De Sarzec's *Decouverts en Chaldee* [pl. 28, fig. 1 and 2]. They are female figures. In the first of these the lower limbs are not modeled out, but form a cone, with an inscription of Dungi, the King of Ur. The other one is perfectly modeled, bears a short dress reaching to the knees, but has no inscription.

Of a later origin are those Kanephores which date from the Elamitic invasion in the second half of the III Millenium B. C., from the time of the Elamite Kudurmabuk and of his son Rîm-Sin, who was appointed by him to be King of Larsam, of that Rîm-Sin (alias Ri-Aku, or Ar-joch) [Gen. chap. 14], who was at the same time king over Sumer and Akkad, *i. e.*, the whole of Babylon, until Hammurabi, the King of Babylon, put him to death in his 31 year and thus released Babylon from the foreign Elamitic yoke [*circa* 2250 B. C.]

One of these "Elamitic" Kanephores was found in Afadsch on the Tigris, and is now in the Louvre. It is a female figure, and the inscription, which is placed on the lower half of the body around the raiment, states that the statue was established by Kudurmabuk together with his son Rîm-Sin, King of Larsam, Nana, the mistress of the Mountains, the daughter of the Moon-god, the inhabitant of the Temple Me-ur-ur. The statue has been repeatedly reproduced, also by Perrot and Chipiez [*Histoire de l'art dans l'antiquike*, II., 329]; the inscription was edited by Lenormant and the easier passages of same were translated several times.

An exact duplicate of the Paris Kanephore has been in the possession of the Berlin Museum since 1898 [VA 2922, female figure, 24 cm. high, from elbow to elbow 10 cm. broad]. The inscription, divided in 2 columns of 15 and 13 lines each, is not in as good preservation as appears to be that in the one in Paris, nevertheless it makes possible the verification of the Lenormant edition in more than one place, in fact it is only possible to secure a complete translation of the text from the two.

A third Kanephore, which is supposed to have been found in Tellô, was secured about 1890 by the British Museum. It is a male figure (in Babylon, therefore, male basket carriers also served at the public worship) in exactly the same position of the body as the female basket carriers, and according to the inscription on same was consecrated by Rîm-Sin, King of Larsam, to Nana the City goddes of Challab, for his own and his father's life. Hammurabi also was a votary of this "heaven and earth with her splendor filling" goddess. A complete explanation of the inscription of this London Bronze has not yet been made.

An exceptionally fine sample of such a female basket carrier has quite recently (in October, 1900) come into the possession of the DEUTSCHE ORIENT-GESELLSCHAFT through the gift of one of its members, Mr. James Simon, and is now kept in the Royal Museum of Berlin. The entire figure [see figures 4 and 5] is 26 cm. high, from elbow to elbow 10 cm. broad, its 15 + 13 line inscription, which is quite different from those yet known (with the exception of the name and titles of Kudurmabuk and Rîm-Sin), is in the finest preservation from beginning to end, in so much as there can hardly be a doubt regarding a single character. The inscription, as on the other Kanephores from Elamitic times, is written in the ancient sacred tongue of Babylon, is in the Sumerian language, and from lines 1-20 reads as follows:

To the Goddess Nana, the Ruler, who is adorned with prodigal splendor, overflowing with grace, to the bright offshoot of the great God of Heaven, to their Ruler, have Kudurmabuk, the Father of Emutbal, Son of Simtischilchak, and Rîm-Sin, his Son, the sublime prince of Nippur, the curator of Ur, King of Larsam, King of Sumer and Akkad, built E-scha-chulla, *i. e.*, House of Great Joy, her favorite dwelling, in order that they might have life, and erected its summit high up like, a mountain.

Then follows a short prayer to the same goddess.

For what purpose these Kanephores served we know perfectly well. In all the inscriptions the prominent dedication, " for the purpose of preservation of life," of the giver, points to the conclusion that exceptionally favorable influence upon the gracious well-wishing of the god was hoped for. The basket carrier was to be a symbolic sign and pledge to the god that her royal dedicator was a true votary, and as such ready at all times to make sacrificial offerings. These and similar bronze statues were, as De Sarzec relates, hidden within the platforms of the buildings of Tellô, in cavities 80 cm. long, broad and high, and which were walled up with bricks and asphalt. They were Talismans, by means of which a magic power for the protection of the temple, as also of the builder, were looked for.

On September 12 Dr. Koldewey reported that the excavation in the Palace of the Kasr had proceeded far enough so that a good idea of its state of preservation and plan could be formed. The walls of the various buildings stand upon a massive platform made of fragments and bricks. Inclosed within this platform and built over it there is a mighty fortress wall running from east to west, 17 m. thick and with a simple gateway. The bricks all bear the Nebuchadrezzar stamp. Only a few simple finds of minor importance were brought to light.

On September 28 he reported the finding of a building at the corner of the fortress wall which is older than the wall itself. This building consists of burnt brick and asphalt, the bricks bearing a small stamp on which there

ARAMAIC INSCRIPTION ON BRICKS DATING BACK TO 650 B. C.

is a walking lion and an Aramaic inscription, the significance of which and determining of its age will be of great importance. From the formation of the characters Professor Euting is inclined to think that it dates back to 650 B. C.

### THE PAVING STONES OF AIBURSCHABU IN BABYLON

On the east front of the Kasr in Babylon there are 2 kinds of street paving stones: a layer of white limestone and a smaller one of red and white breccia. The plates are worked so that they fit sharply together at the top, whilst the joints broaden out toward the bottom. Asphalt was poured over these from the top. One of the narrow sides of each stone bore an inscription of Nebuchadrezzar.

None of the pieces were found in their original position. The only part of the street paving still lying in place is the lower paving which is of burned bricks. The asphalt, however, which covers these bricks plainly shows the traces of the stone paving which formerly lay here. The road, which formerly led precipitously from north to south, was later, as is shown by its construction and stamps, even in Nebuchadrezzar's time, altered in its level, so that its ascent became less, and then later was again changed so that it ran almost horizontally. In doing this the original paving was taken up and used again later. As a result of this there are now found fragments of the stones on the lowest, on the middle and on the upper street-levels. The original places where the stone paving belonged is shown by the figure 1, upon the lowest brick-layer.

I. The limestone blocks are of the formidable size of about 1.05 m. in the square by 33 to 35 cm. thick. Of these there have now been found at the most southerly end of the Kasr road [W, 26 the plan of the Kasr] 5 complete plates with inscriptions and several fragments bearing writing, and many without inscriptions, part here and part upon the stretch of road which was formerly dug up.

The translation of the limestone inscription reads:

Nebuchadrezzar, King of Babylon, Son of Nabopolassar, King of Babylon, am I.

The Babel street have I paved for the procession of the great Lord Marduk with mountain-stone plates.

II. The second kind of red-white veined volcanic breccia, which has now become rotten and fragile, consisted of blocks about 20 cm. thick, whilst the square surface appears to have originally been 66 cm. A complete sample of this kind has not been found; there are on hand, however, several blocks about 60 cm. in the square, which appear to have lost their inscriptions by being chiselled down again later. These together with a number of inscribed fragments, and especially a great number of cracked fragments without inscriptions, lay on the stretch of road which was previously dug up; a few were found in the neighborhood to the west.

The inscriptions on the 2 different kinds of stone, therefore, only differ in so far that on the limestones the paving material is designated as "libitti aban sadi," and on the breccia stones "libitti abni durminabanda." Beyond this the inscriptions are vertical. The inscription legend seems to be in the main an extract from Nebuchadrezzar's "large stone-plate inscription."

With certainty it may, therefore, be stated that Nebuchadrezzar paved the street of the Kasr with the paving stones here mentioned, and that this street must consequently have been the one designated as "Processional street of Marduk" on the stones. As this street is called Aibur-schabu in the "large stone-plate inscription" and together with Euphrates, Libil-chegalla and Imgur-Bel is designated as the Palace boundary by Nebuchadrezzar himself [K. B. III 2, w. 25. Col. VII, 42-46], the doubt could be put aside that the street dug up on the Kasr is Aiburschabn, and the plan for the topography of Babylon made by me when the Kasr-Plan was published is therefore confirmed.

Even before Nebuchadrezzar's time the beautiful Turminabanda material had been used for paving purposes. Nabopolassar used it in the Processional Street [K, B. III 2 p. 21. Col. V, 12-20], and a block found in

Amran on July 28, 1900, with the inscription: "Sanherib, king of Assyria," gives proof that it was used in still earlier times. Whether or not the fragments r, s, t, found to the west of the street, and on which the name of Nebuchadrezzar does not appear, have any connection with the material used by Nabopolassar for the stretch of the Processional street with which Aibur-Schabu connected it, or whether we are here dealing with material brought there later, will, we hope, yet be shown by the excavation. The entire north-east corner of the Kasr has been ransacked a great deal and repeatedly by recent bricks robbers.

### THE PROCESSIONAL STREET OF MARDUK

*Described by Dr. Friedrich Delitzsch*

The fact of having again discovered the Processional street of Marduk, as is positively proved by the discoveries of Dr. Koldewey, is of the greatest importance for making clear the topography of old Babylon. As therefore, according to Nebuchadrezzar's statements, the stretch of road Aibur-schabu, which he rebuilt for processional purposes, ran on this side, *i. e.,* to the west of the great wall of Babylon, Imgur-Bel, in fact in closest proximity, as is shown by the statements made in connection with the street "from the gate X to the gate Y" there can consequently be no more doubt that the wall of 7.25 m. thickness which was crossed right at the beginning of the excavation of Dr. Koldewey, is other than Imgur-Bel.

I myself had expected to find the same more to the east; this, however, is no longer possible after the discoveries made. According to the reading of the Nebuchadrezzar texts, the idea is not tenable, at all events in my estimation that Imgur-Bel and Nimitti-Bel "the great walls of Babylon," only inclosed the Palace City or Fortress of Nebuchadrezzar. As it is repeatedly stated of the wall Imgur-Bel that it was destined to protect Babylon as "the city of Marduk;" that further the newly built second wall designed to strengthen Imgur-Bel, was to make Esagila unapproachable and impregnable, it is therefore clear that Imgur-Bel must, at least, have surrounded Esagila. I look forward anxiously to further results of the, by Dr. Koldewey, so-called outer wall or outer shell running toward the south.

The refinding of the Processional street now leads me to hope that the great Marduk temple Esagila will also be found. For the outlet of the street was formed by the so-called "Chamber of Destiny," the splendid chamber (dû-azaga) in which at the consecrating each year, on the 8 and 11 days, the son of the god Nebo, enthroned in Borsippa, takes up his dwelling and decides the destinies of the world and especially of the king, whilst the gods of the heavens and of the earth, altogether reverently bow, and stand before him. His "Magnificent Chamber," however, the walls of which Nebuchadrezzar had covered over with pure gold, formed a constituent part of the great temple of the god Marduk, Esagila. From the Chamber of Destiny as far as the Babel street Aibur-schabu opposite the "gate of splendor" Nabopolassar had the processional street of Marduk beautifully paved with breccia plates, and his son Nebuchadrezzar had them carried up the street still further on by filling up and paving, partly with limestone and possibly with breccia plates, Aibur-Schabu from the gate of splendor as far as the gate Istar-sakipat-tebisa (*i. e.,* "Istar overthrows her enemies").

On this stretch of road in all probability was also located the broad bridge over which Nebuchadrezzar carried the Processional Street across the Canal Libil-chegalla.

Naturally these and other assumptions of mine either stand or fall with the conclusions based by me on the texts of Nebuchadrezzar, that Esagila could not be looked for anywhere else than underneath the Hill Amran-ibn-Ali to the south of the Kasr.

After these remarks had been written and published there arrived the welcome news from Dr. Koldewey, that the old Babylonian Building far in the center of Amran-ibn-Ali, which they had reached during the excavation in May, 1900 [ See *Mittheilung* No. 5 S. 6 f.] could, according to the plan and inscriptions found there, be no other than the Temple Esagila.

## THE LION FRIEZE OF THE PROCESSIONAL STREET OF THE GOD MARDUK.

*Described by Dr. Friedrich Delitzsch*

The Babylonians were the originators of the art of brick-enameling. They were also the discoverers of another sister-art, by which they reproduced colored pictures in bas-relief on clay and bricks. By means of these brick reliefs, which when joined together served as mural ornaments, they replaced in a neat and tasteful way stones which were entirely lacking in their land, especially alabaster, which latter stone was much used in Assyria for wall sculptures.

The French Expedition of the years 1851-1854, sent out under the direction of " Fulgence Fresnel " and " Jules Oppert," already had collected on the Ruin Pile Kasr, especially on the east side of same, a large number of colored and vari-colored fragments of relief bricks. The coating of color, which was always placed upon the narrow side of the bricks, was at times 1-2 mm. thick.

Among the remains of these pictures the French Explorers thought to have discovered in addition to numerous representations of parts of lions, especially of the manes and tails of lions, also the picture of the hoof of a horse, parts of walls and mountains, of water and trees [See *Oppert,* I, 1863, p. 143 ff.]. Certainly this interesting collection was lost through a sad mishap in the year 1855 in the waters of the Tigris — nevertheless it was confirmed by Diodor's [II 8] relation of a Palace wall in Babylon, on which " were depicted all manner of shapes of animals on rough bricks, with coloring very like that of nature." Furthermore, he said — " one saw on the towers and walls representations of all kinds of animals, and as far as coloring and shape went, well done. The whole represented a hunt, where everything was full of animals of all kinds, and in size more than 4 yards. In this was also represented Semiramis, on horseback, in the act of throwing the spear after a panther, and a short distance off her husband, Ninus, stabbing a lion with a lance." There can also be no doubt that, when Nebuchadrezzar himself mentions artistic pictures of wild oxen and immense snakes, which he placed on glittering, blue enamelled bricks as ornaments for the gates, we also are reminded of such colored brick-reliefs. The same inference could be drawn from the words of the Prophet Ezekiel [ Chap. 23, 14 f.].

But of course it has been impossible up to the present time to learn anything more definite regarding this art even in Babylon, which will intro-

duce into the history of art an entirely new chapter. In order to do this we had to refer to the scholars of the Babylonian artists, the Persian Achæmeniden-Kings. It was in Susa where the full beauty of this singular art, discovered by the Babylonians, was first seen again in all its beauty; on the 3 encircling walls, built of bricks, of the large Audience Hall of the Persian Kings, called Apadâna, which was excavated by the French explorer Dieulafoy, there ran inside a broad, figure frieze made up of glazed bricks, representing 9 walking lions and encircled by palms, opened marguerites and other delicate subjects, whilst upon the outer surface there stretched a colored frieze of the most choice majolica-work, which represented the Susian division of the guard of Darius, *i. e.,* of celebrated "Ten Thousand Immortal Ones." It was only in the Louvre, where these discoveries of Dieulafoy, more or less reconstructed, have been placed since the middle of 1891, that we could up to a short time ago enjoy the wonderful fascination of these beautifully glazed colored brick-reliefs, the warm colors of which even centuries have not been able to efface.

Whether or not, and to what degree, the Persian art excelled the Babylonian, her master, has remained unknown. It is only the "Lion of Babylon," regained by the perseverance of Koldewey and Andræ, and which has this advantage that it has been reconstructed from head to tail completely and only of genuine pieces. That the artists of Nebuchadrezzar had attained the highest mastery in the art of depicting the lion cannot be doubted.

Even if the Susian lion frieze, which, like the Babylonian one, rises from a turquoise-blue background, be criticized that the head and forepart of the body of the lion are too small, the lion of Nebuchadrezzar is in this respect practically free from this fault.

The current conception as regards the technical construction of these colored brick-reliefs is the following: that a plate of soft clay and of fair size was used, and on this surface the entire painting was modeled in relief in the same manner as was done on the large alabaster plates. Thereupon the plate was cut up rectangularly, in size as large as the side surface of the common bricks, provided each of these separate pieces with marks of identification in order to simplify the setting together later on, then covered each piece separately with color varnish, and finally burned them in an oven, and necessarily very hard as the enamel on the same is almost like glass.

At the same time it would appear that, judging from the remarkable uniformity of the separate pictures, moulds were used in the construction of these relief pictures, either for the whole or for the separate parts. [Compare: Koldewey in *Mitteilung* No. 3 S. 5:] "It appears as if the ever recurring figures of animals were pressed out of moulds."

Furthermore, it is well to notice that the architect Felix Thomas, who accompanied the Expedition of Fresnel and Oppert, noticed a special sign on some of the fragments of brick, which he felt convinced was a *marque de pose,* or mark of position.

# EDITORIAL NOTES.

**AFRICA:**—EGYPT: Among some of the valuable discoveries made by Dr. Petrie recently at Abydos is an exquisite portrait of Cheops, the builder of the great pyramid. It gives what we may suppose to be an excellent portrait of the famous ruler and builder. It shows an intellectual and resolute face. It is carved out of ivory, and is of exquisite workmanship. Another object of interest was found in the tomb of Menes. This is a large globular vase of green glaze with the king's name inlaid in purple. This discovery carries back nearly 5,000 B. C. polychrome glazing. This recent discovery shows an exceedingly high state of art and in some respects corresponds with that in Crete of the late Neolithic age. There is also a fine camel's head modeled in pottery, which is the earliest representation of the camel in Egypt thus far discovered. Dr. Petrie's discoveries in this great center of early European civilization are of great importance.

**EUROPE:**—FRANCE: The archæologist M. Charles Magne has made excavations in the Rue Cassini, Paris, where he had long suspected there lay remains of the old Roman occupation. He discovered the cover of a tomb on which is sculptured in bas-relief a Roman blacksmith wearing an apron. In his left hand he brandishes a long pair of pincers and forceps. The right hand is broken off. It probably held a hammer. M. Magne judges from the style of the work and from a piece of money of the time of Nero, found near the tomb, that the work dates from the I Century.

**NORTH AMERICA:**—UNITED STATES: Prof. William C. Mills, Curator of the Museum of the Ohio Archæological and Historical Society, in a recent letter written while in the field says: The Gartner village site, of which you speak, and which surrounds the Gartner mound we examined last year, is one of the most interesting that we have been able to examine in the Scioto Valley. It is rich in so many remains touching upon the every-day life of the mound builders. This village site is directly outside of the Cedar Bank works and is described by Squier and Davis. Within this inclosure no evidence of a village has ever been found, and during this year I have spent a great deal of time in searching every portion of the enclosure for the remains of a village, but without success; this village, however, is directly outside of it, and perhaps only ¼ mile distant. Here we found the great refuse pits, the same that were found at the Baum village site in Paint Creek Valley. In the bottom of many of these pits were found quantities of corn, beans, various kinds of nuts and pottery ware, showing that these pits were evidently used as storehouses for the provisions, grain, etc., and that by accident they caught fire, leaving nothing but the charred remains of the various articles mentioned. The pits were invariably filled with refuse. Outside of these pits were found the most interesting of all, the great mussel bakes. These were made by digging a hole in the ground from 5 to 7 feet in depth and about 4 to 4 ft. 2 in. in diameter. A great fire was built in the bottom of these pits; so great was the fire that the sides of the pits were burned to a deep red, then small river boulders were thrown upon this fire

and then the fresh water mussels of small size were piled upon the stones and no doubt the entire pit filled with mussels and the top covered with grass and left to bake. After the feast, for it was no doubt a feast, the shells were thrown back into the pit. We made a careful estimate of the number of shells by counting a certain number in a given space, and found that more than 10,000 mussels were used in this great feast. They were all of small size, none of them large, and were procured from the Scioto River only a hundred yards distant. We found 2 of these pits, one was 7 ft. deep and the other one 5 ft. deep; one contained 500 boulders and the other 450. In another pit we found evidences of a great feast of animals. The pit was filled for several feet with the remains of broken pieces of bone, showing that they had used deer, bear, elk, beaver, wild turkey, etc., in this great feast. Another interesting feature of this village was the finding of a great fireplace over 30 feet in length and between 16 and 17 feet wide. The fire had charred the ground to a depth of 14 inches and was hollowed out in the center, caused by removing the ashes. Near one side of this great fireplace was found a cremated skeleton about half burned. When we examined the mound we found a large platform, 40 ft. in length by 20 ft. in width, covered with ashes to a depth of from 6 in. to 2 ft., and there is no doubt that the ashes from this great fireplace were taken and deposited there from time to time. We have finished the examination of this village and procured a great quantity of material showing their handiwork in stone, bone, shell, and pottery. We are now working upon the large Harness mound. This has been worked over by Squier and Davis and is described in *Ancient Monuments of the Mississsippi Valley* on page 158 and maps on page 56. This mound was afterward examined by Professor Putnam, an account of which is found in Vol. 3, Nos. 5 and 6, of the Peabody Museum, and described in the 18th and 19th annual reports. Then Professor Moorehead tunneled the remainder of the mound and describes his work on Page 219, Vol. 5, of the official publication of the Ohio Archæological and Historical Society. Not quite satisfied with the examinations conducted in the past, I concluded to further explore this mound. We have about ⅓ of it completely removed, and in this ⅓ I have taken out 70 skeletons. Buried with the skeletons were many pieces of copper made into ornaments and implements and various artifices of stone, bone, shell, and mica, and I was astonished to find some most beautifully carved bone. Of the 70 skeletons removed, 69 of them had been cremated, but the calcined bones of these were carefully placed in a small heap and covered with cloth and skins and various other material such as grass and bark.

Professor Mills will send us later an article on these discoveries, accompanied by a complete series of photographs and drawings.

One of the largest, if not the largest, collections of fossils in the world has been purchased from the Baron de Beyet of Brussels, Belgium, for $250,000.00, and will shortly be deposited in the Carnegie Museum at Pittsburg, Pennsylvania. The securing of this remarkable collection is owing to the good judgment and enterprise of Dr. William J. Holland, the Director of the Museum, and the liberality of Mr. Carnegie.

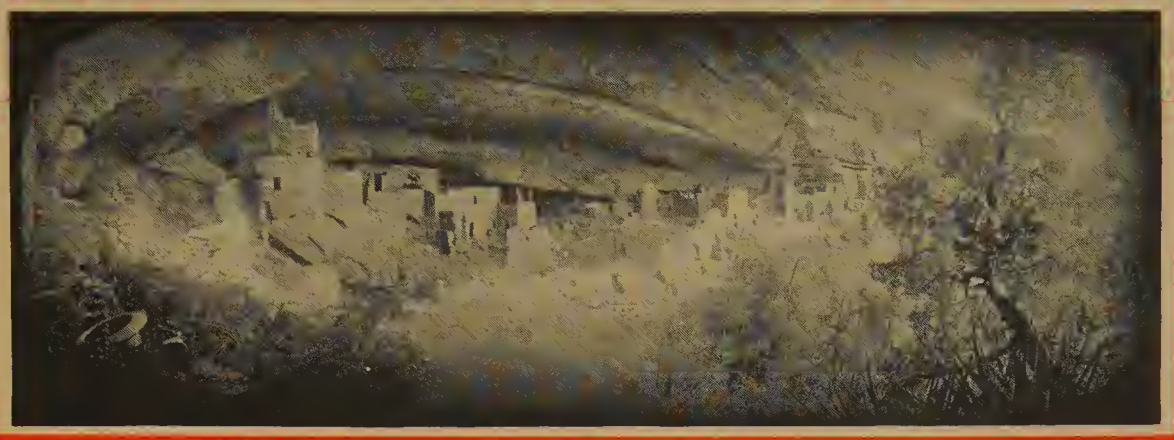
Dr. Holland had as a bidding competitor Professor Norton of the British Museum. The collection represents the work of Baron Beyet for

over half a century, and his place in the scientific world is a guarantee that the collection is extremely valuable.

In RECORDS OF THE PAST for September reference to an interesting piece of pottery from the Montezuma Valley, Southwestern Colorado, bearing a representation of some animal belonging to the elephant family, was made in an article by Mr. Wright. We have since had the good fortune to receive a drawing of this pitcher which was made by Captain Cecil A. Deane, of Denver. Several attempts have been made to photograph it, but on account of the faint outline of the animal they have not been satisfactory. We therefore reproduce the drawing. The following is the description of the vase as furnished us by Mrs. B. W. Ritter, of Durango, Colorado, who is in possession of the pitcher:—

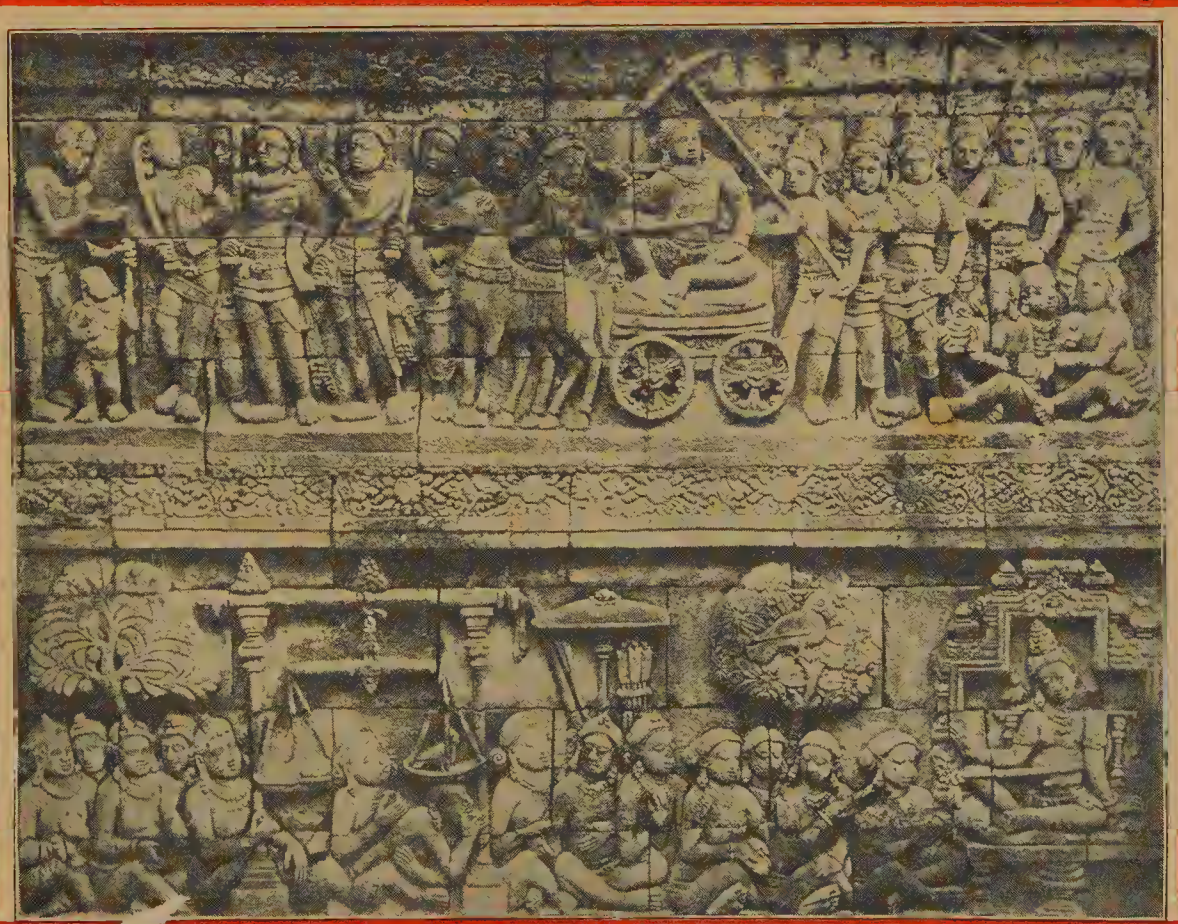
The piece is pitcher-shape, of about one pint capacity, 4½ inches high, of the ordinary gray ware of the prehistoric people who inhabited the southwest. The decorations are in black: the clay had been worked rather better than much of the same ware; but it is in no way unusual, except for this design. It was probably intended for water or lamp; the latter purpose seems more reasonable as the mouth is small, does not make a good drinking vessel, nor would its size recommend it for that purpose.

It was found about 18 years ago, in the Montezuma Valley, and has changed hands but twice in that time. There is no doubt as to it being a genuine piece. The ruin from which it was taken was a "rich field," but, so far as I know, nothing else unusual was found there. Most of the other pieces have been added to other collections or sold to dealers. None had, so far as I could learn, had any design other than the so-called line and basket patterns.



# RECORDS OF THE PAST

VOLUME II OCTOBER, 1903 PART X



Volume II

# RECORDS OF THE PAST

Part X

REV. HENRY MASON BAUM, D. C. L.
Editor

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MR. FREDERICK BENNETT WRIGHT
Assistant Editor

OCTOBER, 1903

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RUINS OF BORO BUDUR TEMPLE, JAVA

# RECORDS OF THE PAST

VOL. II PART X

OCTOBER, 1903

## THE BORO BUDUR TEMPLE OF JAVA

BY CLARENCE B. MOORE

IT COULD doubtless be asserted with perfect truth that to the great majority of cultivated persons to whom the Acropolis, the Colosseum, and the Pyramids are almost household words—the name even of the wonderful lava temple in the heart of Java, the Boro Budur, is entirely unknown. Yet, perhaps in certain respects the Boro Budur fully equals any now-existing monument of bygone ages; and it is difficult to explain the general lack of information concerning it, except that travelers to Java rarely get beyond Batavia, or possibly Buitenzorg, and then hasten away to Singapore to continue the beaten track of the tourist. Moreover, it is almost as hard to obtain information of these ruins in Batavia as it would be in New York.

Batavia is an interesting town, mainly in that one can there best see the very free and easy customs and costumes of the East Indian Dutch. All over the houses and hotels, until time to prepare for dinner, 4 or 5 P. M., the women go about clad in camisoles of linen, with the sarong, or short skirt, reaching half way to the ankle, with stockingless feet thrust into slippers and hair hanging loosely down the back. The sarongs are of the most gaudy colors, and the wearers seem to vie with each other in selecting patterns striking and bizarre to the last degree, in which snakes, dragons and devils play a prominent part. The retail trade of Java is monopolized by the Chinese, and the hotel is haunted by these people, pack in hand.

From Batavia to Samarang is a two-day's sail, and fortunate it is that the weather is usually calm, for those having a tendency toward seasickness and a consequent horror of tobacco smoke *pro tem* would otherwise have a hard time. From morning to night, on deck, in the cabin and staterooms, the smoking goes on, a tumbler upside down serving as a rest for the cigar, while the smoker between puffs snatches time to masticate his food. On deck a long piece of lighted punk lies upon a stand in the form of a gilded dragon, and, like the sacred flame of Vesta, never permitted to die out; a native stands by, ever ready to answer the demand for *api* (fire in Malay) and to carry the punk to any one wishing a light. At Samarang there was almost no one able to give information as to the itinerary to pursue, but it was explained that an interpreter would be absolutely necessary, inasmuch as nobody in the interior could speak anything save Dutch or Malay. After a long search, the services of a lad about 17, the son of a German tailor, were secured.

Less than 3 hours' by rail from Samarang, is the town of Solo, with a much better hotel than one might expect under the circumstances. About 2 hours more by rail brings the traveler to Brambanan, which place next to the Boro Budur, contains the most interesting ruins in Java.

The ruins at Brambanan cover a comparatively large area and are mainly interesting for what they must have been, since great havoc has been wrought by the roots of trees, which, extending in all directions, have torn apart the masses of masonry. The stones composing the walls of the various temples are grooved, and fit each other, no cement being used. A number of statues are scattered around, which the traveler from India readily recognizes as representing various gods belonging to the Brahminical pantheon.

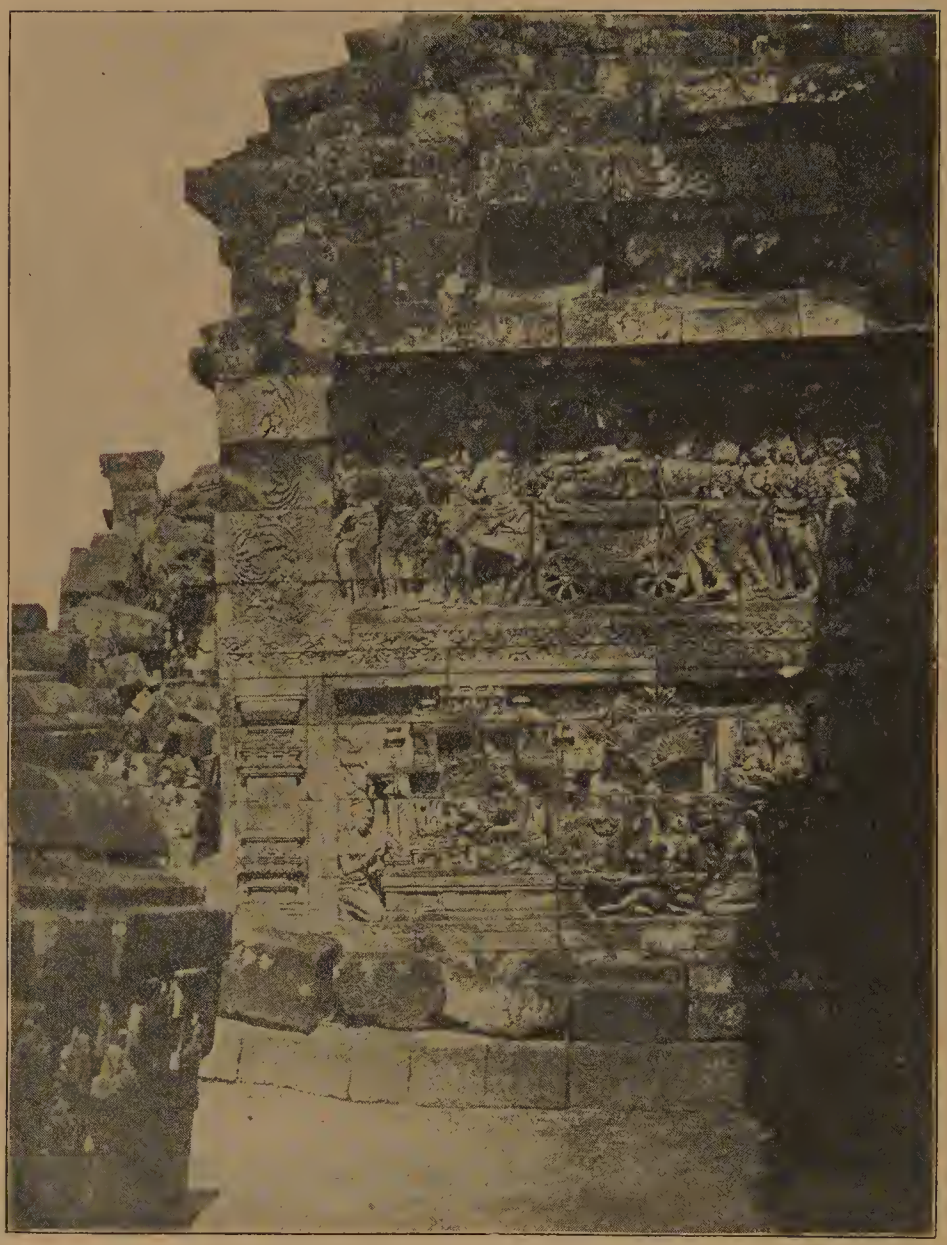
In the ruins of Chandi Sewu, or the Thousand Temples, which form part of the remains at Brambanan, are a number of figures apparently of Buddha; though it has been asserted that such is not the case, and that these effigies of stone represent simply votaries in the act of devotion to the Brahminical gods of the place. These figures are the same as all those found at the temple of Boro Budur, and have all the attributes seen in effigies of Buddha elsewhere.

From Brambanan to Djokjokarta is a journey of only half an hour, also by rail. The town of Djokjokarta is the capital of a native Sultan, and has an interesting ("water palace") and a large collection of leopards all huddled together into an enormous wooden cage. These beasts are the property and the pride of the Sultan, and are entirely untamed, to all appearance, as they do not hesitate to spring at any outsider whose curiosity draws him into too close proximity to the bars of their wooden home.

If desired, the journey to the Boro Budur can be made in a coach-and-four, the distance being 25 miles over a fine broad road, as smooth as a floor and lined with native villages, shaded by towering cocoanut and palm. If a market day, the villagers can be seen, either squatting by the road-side offering for sale small heaps of food or merchandise, or moving from trader to trader making purchases here and there as their fancy prompts.

It is a journey never to be forgotten, and the drive is all too soon over, when at length the temple of Boro Budur looms in sight. The traveler, having previously in all probability met no one who has ever seen this wonderful structure, and having heard but the vaguest hints as to its size, and nothing relating to its wealth of statues and bas-reliefs, is fairly dazed. Upon him who has previously seen the temples of Egypt, of Greece, and of India, Baalbec, in Syria, and the wonderful ruins of Girgenti, if ruins they may be called, where the ravages of time are scarcely apparent, and the altar and stairways stand

GALLERIES IN THE TEMPLE OF BORO BUDUR



GALLERIES IN THE TEMPLE OF BORO BUDUR

intact—to those who have lingered among the baths, aqueducts and amphitheatres of Italy and the South of France—it is doubtful if the first impressions of these wonders of architecture in any way equal the effect produced by this lava temple in the heart of Java. When one has seen pictures of famous ruins and photographs in great numbers, and for years read and heard descriptions of the most enthusiastic kind, it is seldom that the reality very far surpasses the preconceived idea. The effect of the Boro Budur is most amazing, so unexpected is the grandeur of the sight presented.

On the top of an eminence, which has been leveled to some extent to receive it, is the temple of Boro Budur. It is not quite square, but nearly so, each side being about 620 feet in length; it is entirely built of blocks of black lava, excessively hard, to which quality doubtless, it owes its excellent state of preservation.

It consists of 7 ranges of walls and terraces decreasing in size until they culminate in a level space, in the center of which stands a species of dome about 50 feet in diameter, containing a gigantic statue of Buddha. This dome is surrounded by three circles of towers constructed of lattice work of stone, each enshrining an image of Buddha, 72 in all. Descending, one passes to successive terraces, the walls of which on the inside are covered with bas-reliefs illustrating everything pertaining to the life of the forgotten race which flourished when the temple was built. These bas-reliefs are executed in a high style of art, and are altogether over 2 miles in length. On the outside of the terraces at regular intervals are sitting images of Buddha which certainly number not less than 400 and possibly double that. These figures are somewhat over life size, being 3 feet in height as they sit. The height of the building is about 100 feet exclusive of the dome, which is in a partially ruinous condition, and of which about 20 feet still stands. The temple is not one solid mass of masonry, but is built around the conical hill until the base of the dome is reached. Leading up to the temple is a broad avenue with animals of stone on either side, while 2 lions stand guard at the foot of the stairway of lava.

Who built the Boro Budur? At what era did it first swarm with priests and devotees? We have no records of any sort to guide us. It is asserted by some that the temple derives its name from Boro, the district in which it is situated, and Budur, ancient; while others think it is a corruption of Bara, great, and Buddha. The latter is most probably correct, and the district has taken the name from the temple. The statues at Boro Budur are, to all appearance images of Buddha; and no statues of undoubted Brahminical origin are to be seen in the building, although one was once discovered in an adjacent field; and in ruins at no great distance are many armed figures, evidently of some Brahminical god.

It is hard to mistake an intended likeness of Buddha, for even the most inferior artist throughout the East seems successful in imparting to the countenance that smile of utter contempt for human affairs, which all, and Buddha most of all, must feel in Nirvana. At Brambanan about 35 miles distant, as we have seen, are statues clearly traceable to votaries of Brahma. We know that in India the two religions flourished side by side until a period when, a bitter rivalry having arisen, the milder cult of Buddha was forcibly supplanted by the weird and fantastic gods of the Brahmins.

Whether Buddhism met a similar fate in Java it is impossible to say, there being no reliable records until the conversion of the people to Mohammedanism in the XV Century. Some writers have conjectured that the sway

BAS-RELIEFS IN THE TEMPLE OF BORO BUDUR

BAS-RELIEFS IN THE TEMPLE OF BORO BUDUR

of the Hindoos was extended to Java in the VI Century of our era; but this is conjecture only, and probably the people and religions of continental India had gained a foothold in the island at a far earlier period.

The appearance of the ruins in Java can in no way aid us in forming an estimate of their age, since the uniformity of climate and absence of frost leave nothing to injure the temples of lava beyond the rank vegetation and an occasional earthquake. The inhabitants of Java are now Mohammedan and have no traditions relating to the temples of their island, though they still regard the images with a certain reverence. When we consider the mighty mass of masonry, the extreme hardness of the lava, and the great extent and endless variety of the bas-reliefs, it becomes a question whether any architectural remains now existing can compare, in the amount of labor expended, with these wonderful ruins in the interior of Java.

The great Buddhist temples of Ankor, in Cambodia, are so difficult of access and so far removed from the beaten track, that a failure to visit them may readily find excuse; but for the antiquary or the traveler of cultivation reaching Singapore, it is surely a mistake of magnitude to omit a journey to the lava temple of Boro Budur.

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## THE BUDDHIST RELIC MOUND AT SOPARA

BY MRS. S. GHOSAL

SOPARA, which was the capital of the Konkon from about B. C. 1500 to A. D. 1300, lies in the district of Thana in the Bombay Presidency. The original word was Surparaka, under the name of which it appears in the Mahabharata (B. C. 1400) as a holy place where the Pandavs rested on their way from Gokarn in north Kanara. It is said to have been built on the belt of land recovered by the arrow shot by Parshuram when he won the Konkon from the sea. The meaning of the word if a hyphen be put between the Sur and Parak is "The Hero's Trial." But why Pandit Bhaganbanlal ignored this simple and patent meaning is a mystery to me. According to him it has some connection with Surpa, a winnowing basket. But apart from the difficulty of accounting for the addition of the unmeaning syllable "rak," I should think the former interpretation would be more significant and appropriate to the reputation of the place. According to Buddhist writers, in one of his former births Gautama Buddha was Bodhisat Supparak, that is a Bodhisattva of Sopara.* About B. C. 540 it is said to have been a port visited by Vijaya, the Bengali conqueror of Ceylon. These old Hindu traditions support the opinion expressed by Benfey, Reland and Reinand that Sopara is Solomon's Ophir (B. C. 1000). Ptolemy (A. D. 150) and the author of the Periplus (A. D. 241) also mention it as Supara and Ouppara. In the legend of Purna translated by Burnouf from Nepalese and Tibetan sources, apparently of the IV or V Century after Christ, Sopara (Surpa raka) is described as the capital of a king, a city with several hundred thousand inhabitants, with 18 gates and a temple of Buddha adorned with friezes of carved sandal-wood. It was a great place of trade. Caravans of merchants came from Shravasti in Oude, and great ships with 500 (the stock phrase for a large number) merchants,

*Hardy's *Manual of Buddhism*, 2nd Ed.

both local and foreign, traded to distant lands. There was much risk in these voyages. A safe return was the cause of great rejoicing. Two or three successful voyages made a merchant a man of mark. Who, says one of the merchants in the story, that has made 6 safe voyages has ever been known to tempt Providence by trying a seventh. A strong merchant guild ruled the trade of the city. The religion of the country was Brahminism. Purna, the son of a rich merchant, turned the people of the Konkon from their old faith to Buddhism.[1] Before the beginning of the XIV Century, Thana had become the chief center of trade. But Sopara was still a place of consequence. In 1322 Friar Jordanus went from Thana to Broach by Sopara and brought with him and buried the bodies of his 4 companions who were killed at Thana. There seems to have been a relic of the old Kalyan bishopric at Sopara, as Jordanus found many Nestorian Christians and a church dedicated to S. Thomas the Apostle. Here he buried the 4 friars and during a stay of 15 days instructed many people, baptized them, and administered the Holy Communion to about 90 Christians. Under the Portuguese, Sopara was a fortified Post with 4 wooden stockades.

About the middle of the XVIII Century Sopara or Sipala, though fallen to insignificance, is noted by Du Perron in his journey from Surat to the Elephanta caves November 27, 1760. In 1803, when Bajiroa, the last Peshwa of Poona, fled to Bassein and placed himself in British hands, a palm-tree stockade was set up to guard the Sopara bridge. For a place whose importance as a religious and trade center lasted for over 2,500 years Sopara has few remains. Of stone temples and stone-lined lakes and reservoirs many are said to have been destroyed by the Mohammedans in the beginning of the XIV Century. Still enough were spared or repaired to excite the admiration and wonder of the first Portuguese (1530-1540.)[2]

But during the XVI and XVII Centuries the lake banks were stripped and the temples pulled down and the stones used in building Portuguese Churches, forts and houses, the bulk of them probably finding their way to the great walls and religious and state buildings whose ruins still adorn the city of Bassein, which lies about 4 miles southeast of Sopara. Except a few lately unearthed statues and fragments of carving the only remains are so old that the people had ceased to know of them or care for them, centuries before the Portuguese came to India. The most important of all the remains is a Buddhist Stupa or relic mound which stands in a wooded untilled plot of land about ¼ of a mile west of Sopara town. It is locally known as "Burud Rajacha Kot"—that is the fort of the Basket-making king. However I believe, and think I have good grounds for my belief, that the word "Burud" is a corrupted form of "Bharat." In the first place this name is a very common one for Indian princes and it is more than probable that formerly there reigned a real Bharat Raja in Sopara. Again the name Bharat is almost prehistoric and has many associations attached to it. The first king who is said to have brought the whole of India under one rule was named Bharat and so India got its present name Bharat Varsha after him. Since the foundation of most kingdoms if unknown, are ascribed to Bharat Raja. But here the poor Sopara Bharat whether real or imaginary is raised to the honour of a Burud ship instead, merely because the similar word Burud occurs in the Maratha language, meaning a basket maker. An amusing story also gathered round the king based on this altered name.

[1] Burnouf 256-264.

[2] *Dom joaod castro, Primeiro Roteiro Da Costa da India.*

The story as related in the Bombay *Gazetteer* (Vol. XIV) states that the king who built the tower was of so kindly a spirit that he took no taxes from his people. He lived without show and with the strictest thrift, paying for his food by the sale of bamboo baskets made by his own hands. He is known as the Burud Raja or Basket-making king, and as the Dharma Raja or the pious king. His land was rich and his people feared that an enemy might come, and finding the country unguarded, lay it waste. They asked the king what he would do if an enemy came. "I have no enemy," said the king. "If an enemy comes I will guard the land." To test the king's power some of his less-believing people banded together and marched towards the city as if in hostile array. Others, in the secret, fled to the king with the cry, "An enemy is before the gates." "Are the people who are before the gates truly enemies?" asked the king. "They are truly enemies," said the unbelievers. Then the king raising his heavy knife cleft a slip of bamboo that lay in front of him, and at that instant the band of the unfaithful perished.

The Basket-making Queen is also known to the people. She wore no ornaments, and did all the housework in her husband's fort. She used to go to draw water at the Chakreshvar lake, about 500 yards to the northeast of the fort. Simply dressed, and with no ornaments but palm-leaf bracelets, she used to walk on the water and fill the water-pot at the pole in the middle of the lake where the water was pure and untroubled. The women said, "We all have jewels, and you who are a king's wife have no jewels. Ask your husband; he will not deny you." The king said, "Why do you want jewels? What profit is there in jewels?" But when she still insisted he begged a betel-nut from every house and with the betel-nuts bought her jewels. The queen put on her jewels and went to draw water. But as she walked on the water, the weight of her jewels dragged her down and she sank. It was hopeless to reach the middle of the lake, so she filled her water-pot from the side. The king saw that the water was foul and asked what had happened. She confessed her fault and never again wore jewels.

It is about 15 years ago that the resemblance of the Tower to a Buddhist relic mound was noticed by Mr. Mulock, the Collector of Thana, and it was opened in April, 1882, and some most precious Buddhist relics, among them fragments of the long-disputed Begging Bowl of Gautama Buddha were found within. I give the full description below from the Bombay *Gazetteer*:

The mound, which is about 65 yards around the base, rises about 17 feet with steep earthen sides, out of which grow several Karanj bushes and large brab palms. At the top of this 17-foot bank runs a level terrace about 15 feet broad, and from the back of the terrace, studded with big brab palms and large Karanj bushes, rises a dome about 10 feet high and 20 feet across the top. The best view of the mound is from about 60 yards to the south, where the outline of the large rounded base, the flat terrace and the dome is still clear. Round the mound the foundation of a brick and stone wall can be pretty clearly traced, about 56 feet to the north and south of the mound and about 95 feet to the east and west. The oblong space, which this wall encloses, measures 252 feet from east to west, and 180 from north to south. In the middle of the south wall there seem to be the remains of a gate, and in the middle of the east wall, was the main entrance. Outside of the east entrance gate, a bush and thorn-covered space, 48 feet square, is full of brick and stone foundations. The marked line of wall along the north side of the enclosure was built, about 50 years ago, by a Mussulman beggar named Shaikh Amir. It stands nearly on the line of the old wall.

When he settled near the foot of the tower, Shaikh Amir dug a well, and turned the land round into a garden. He explained his wealth by his knowledge of

the art of making gold, worked many wonders as a chemist, and was greatly feared. At this time, Sopara and the villages round were troubled by a band of robbers. They robbed at night and disappeared in the morning, leaving no trace. One morning the robbers were found in a house, and, with the police at their heels, fled into the chemist's garden and disappeared. Search round the garden showed that the robbers had not left it, and, as the police drew close to the tower, 3 men bounded out of the dome, and, taking different directions, escaped. The tower was searched and the dome was found hollowed about 6 feet deep, and the hollow chamber filled with stolen property. The men had stayed underground during the day, and at night had come out to rob. The proof was clear and the chemist was transported for life. A grave on the east side of the terrace, with a fragment of an old Hindu temple as a head-stone, is the grave of Ramjan Khan, an Afghan, one of the chemist's disciples. After Shaikh Amir's conviction the hollow in the tower was filled, and since then the mound has been constantly drained of its bricks, almost the whole outer coating having been carried away.

Inside of the dome there was loose earth, and about 6 feet from the top were found a pair of rusted scissors and an English two-anna piece of 1841, relics of the chemist's plunder. About 12 feet from the top of the dome, that is about a foot below the terrace from which the dome springs, in the center of the body of the mound, was found the beginning of a carefully built brick chamber, about 2 feet 9 inches square. About 2 feet 9 inches from the top of this chamber, kept in its place by 8 large bricks 1′ x 7″ x 1′ x 3½″, was a dark circular coffer about 2 feet across and 1½ feet deep. This coffer was formed of 2 equal blocks of smooth yellow trap, closely fitting together in the middle, and ending in a circular convex top and bottom. It looked like 2 huge grindstones, with bevelled edges. Below the coffer the bricks were strewn with the mouldy remains of sweet-smelling powder. Underneath the relic-coffer, the brick-filled (?) chamber, keeping the same size, 2′ 9″ square, and with the same carefully-built walls, passed down about 12 feet, when a layer of flat bricks was reached, apparently the foundation of the mound. Unlike the bricks in the relic-chamber, and on the outer face, which are laid on earth, these foundation bricks seem to be set in cement.

The section of the mound laid bare by the cutting, shows an envelope of earth about 3 feet thick. Inside of this envelope a casing of carefully-built bricks rose from 12 to 14 feet, ending in a horizontal layer or terrace, 18 feet broad, from which rose a dome of roughly-built brick and earth, whose top is so ruined that its original shape cannot be determined. The masonry of the mound seems to have been brick throughout. A good deal of it is rough-baked brick laid in layers of clay. But the part of the eastern wall which has been cleared, is faced with large finely-baked bricks. As far as was seen, except some moulding near the east entrance and one brick roughly shaped like an elephant, the masonry is plain.

The stone coffer stands 1 foot 7½ inches high. It is in 2 equal parts, which meet in the middle and fit tightly together. The stone is a light coloured trachytic trap, apparently the same as the trap found in the Nil hill, about a mile east of Sopara, and also near Kurla in Salsette. Their perfect smoothness and the sharp accuracy of their lines seem to show that the 2 stones that form the relic-box were turned on a lathe. The surface has been covered with a black wash of clay with a trace of iron in it, which can be picked off in small flakes about 1/64 of an inch thick. From the rims of the convex top and bottom, the sides curve for about 2 inches inward in a groove about 1 inch deep. Then for 3 inches they swell to the line of the upper and lower rims, and from that, for about 2 inches, they again curve gently inwards, with a groove about ¼ of an inch deep, to the middle of the height, where the upper and the lower stones, that is, the lid and the box, meet. The whole is very massive and of great weight.

On opening the coffer, the lid, which fits very tightly, was found to be kept in its place by a flange or inner rim on the lower stone, 1 inch thick and 1 inch higher than the outer rim. The inside measurements of the box or lower stone are 19 inches across and 6½ inches deep. The inside measurements of the lid or

VIEW OF THE BEGGING BOWL OF GAUTAMA BUDDHA

upper stone are 21½ inches across and 5 inches deep. In the center of the box stood an egg-shaped coffer casket, about 18½ inches round the middle, and 6 inches high. Round the casket, at about 2 inches distance, was a circle of 8 small copper castings of Buddha, about 4 inches high by 2 broad and about 2 inches apart. The central casket and the images were thick with rust and with what looked like damp brown and grey earth, but was the mouldy remains of sweet-smelling powder, which had been scattered over them about 1 inch deep.

Of the 8 images, the chief, facing the west, is Maitreya, or the coming Buddha. His image is about 5 inches high by 3½ broad. It is larger than the rest, which, with slight variations, measure about 3½ by 2½ inches. All the figures are seated on flat raised platforms, and over each is a horseshoe arch or canopy. The chief figure or Maitreya Bodhisattva differs greatly from the rest, whose general character is much alike. His pedestal is higher, and it is square instead of oval; his right foot hangs over the edge of the pedestal; he wears ornaments, and has a rich conical crown or tiara, his crown is surrounded by a horseshoe aureole, and his canopy is plain. The other figures are all seated in the usual stiff cross-legged position, wearing a waist cloth and with an upper robe drawn over the left shoulder. The expression of all is calm and unmoved, the hair looks as if close curled with a knob on the crown, and the ears are heavy and long. The hands are arranged in different positions, two of the positions being repeated. Each figure represents a different Buddha, the plume of leaves that crowns the canopy showing which of the Buddhas each image represents. All are copper castings well proportioned and clearly and gracefully formed. The ears, though large and heavy-lobed, are not so unshapen (?) or ugly as those of later images. The leaves of the different bodhi-trees, which crown the canopies of the different Buddhas, are formed with extreme care and accuracy. This circle of Buddhas means that Maitreya has become Buddha and has come to claim Gautama's bowl, fragments of which are enclosed in the casket. Gautama is ready to hand over the bowl and the 6 other Buddhas attend because it was believed that Gautama's bowl had been handed down as a symbol of office by the 6 earlier Buddhas.

Maitreya Bodhisattva, or the coming Buddha, the chief and largest image, is placed facing the west, because, on becoming Buddha, he will pass through the great eastern gateway, open the relic-chamber, and, from the gold casket, take the fragments of Gautama's bowl. Maitreya is represented as a Bodhisattva, or coming Buddha, not as a Buddha; as a king, not as an ascetic. He is seated on a high pedestal. His right leg is half drawn across, the foot hanging down, the toe resting on a lotus. The left leg is doubled right across, the heel drawn back close to the body, and the sole half turned up. The right arm is stretched forward, the back of the open hand resting on the right knee in what is known as the Giving Position or Vara-Mudra. The left hand, which is raised a little above the elbow, holds with much grace a lotus stem, which ends above in 3 flower heads. He wears a rich conical crown or tiara, and round the crown a detached aureole in shape like a horseshoe. He wears earrings, 2 necklaces, a sacred thread, armlets, bracelets, and anklets. Round the waist is a band as if of thick string, and round the hips and hanging in front is a fringed belt. Over his head rises a horseshoe arch or canopy, with about half-way up a cross bar or back-rest. To the visitor's left, facing southwest, is Shakyamuni, the last or seventh Buddha. He sits as he sat when he became Buddha, his left hand laid in the lap with up-turned palm, his right arm stretched in front, the palm laid on the right knee, and the finger-tips resting on the pedestal, in the Earth-touching Position, or Bhusparsh-Mudra. From the center of the arched canopy above him rise 3 sprigs of the peak-leaved pipal, *Ficus Peligiosa,* Gautama's Tree of Knowledge or Bodhi Tree. To the left, facing south, is Kashyapa, the sixth Buddha. His left hand is laid in his lap with up-turned palm, like Gautama's left hand, but the right hand is raised to the level of the shoulder, and the palm is open, with a slightly forward bend in the Blessing Position or Abhaya-Mudra. The center of his canopy is crowned with a tuft of banyan leaves, *Ficus India*, Kashyapa's Bodhi Tree. Next to the left, facing south-

east, comes Kanaka, the fifth Buddha. Like the image of Shakyamuni, he is seated in the Earth-touching Position, the left hand laid open in the lap and the palm of the right hand on the knee, the finger-tips resting on the ground. The two twigs of the udumbara fig, *Ficus Glomerata*, that crown his canopy, show that he is Kanakamuni. Next to the left, facing east, comes Krakuchchanda, the fourth Buddha. He sits, cross-legged, with both hands in his lap, the back of the right hand laid in the palm of the left, in the Thinking Position or Dhyan-Mudra, also known as the Lotus-seated Position or Padmasan-Mudra. The leaves that crown his canopy are apparently of the Sirisha, *Acacia Sirisa*, the bodhi-tree of Krakuchchanda. Next to the left, facing northeast, comes Vishwabhu, the third Buddha. He is seated cross-legged, like Maitreya, in the Giving Position or Vara-Mudra, the left hand with up-turned palm laid in the lap, the right arm stretched in front, and the hand open and turned down, the backs resting on the right knee. Unlike the other figures, he has an aureole, which fills the space between his head and the canopy. The canopy is crowned with a bunch of leaves, and there are leaves on each side of the head. According to the Ceylon books, Vishwabhu's tree is the sal, *Shorea robusta.* But these are not sal leaves, but apparently patali, *Bignonia Suaveolens*, leaves, which, according to the Ceylon books, is the badge of Vipashyi, the first Buddha. The next image, facing north, is Shikhi, the second Buddha. He sits cross-legged, in the Thinking Position, or Padmasan-Mudra, the hands with up-turned palms laid on the lap, the right hand resting on the left hand. The tuft of leaves that crowns his canopy is apparently of the white lotus or Pundarik, which, according to Ceylon books, is Shikhi's badge. The last image, facing northwest, is Vipashyi, the first Buddha. He sits cross-legged, in the Teaching Position or Dharmachakra-Mudra, the hands raised to the chest, the tip of the left little finger caught between the points of the right thumb and forefinger. His canopy is crowned by a central bunch and 2 side plumes of leaves, much like the leaves of the Ashok tree, Jonesia Asoka. This agrees with the sculptures in the Bharhut Stupa [B. C. 200], but not with the Ceylon books, which make Vipashyi's badge the patali or *Bigonia Suaveolens.*

Inside of the copper casket was a silver casket, the space of about ½ an inch between them being filled with dimmed and verdigris-stained gold flowers, a handful of caked *abir* powder, some loose jewels, a small gold plate with a pressed-out stamp of a teaching Buddha, and a small silver coin. Inside of the silver casket, strewn with tarnished gold flowers, was a stone casket, with sharp, true lines, as if turned on a lathe. Inside of the stone casket was a crystal casket, and inside of the crystal casket, covered with bright, sparkling gold flowers, was a gold spire-topped box, filled with small pieces of earthenware, covered with fresh gold spangles. These shreds of earthenware, the relics in whose honor the mound was built, seem to be pieces of a begging or drinking-bowl.

The copper casket weighs 1 pound 6 ounces 7 dwts., and is worth about 10½d. (annas 7). It is plain and nearly egg-shaped, about 18½ inches round the middle, and about 1/16 of an inch thick. It stands about 6 inches high, of which about one-half is body and one-half is lid. The body is plain and bowl-shaped, with a flat bottom. The lid, which is slightly conical, is girt with 2 rings of hollow moulding about 1½ inches apart. Round the middle, where the lid meets the bowl, runs a third hollow moulding. The casket has a rough hinge behind. and in front was fastened by a round-headed copper staple passed through 3 heavy copper rings. Inside of the copper casket, between it and the sides of the silver casket, were about 300 gold flowers of 7 different sorts, weighing in all about 480 grains and worth £4 (Rs. 40/—).

Among the flowers was a small silver coin, fresh and clear, which Pandit Bhaguanlal has deciphered to be a coin of Gotami-Putra II, of the Shatakarni dynasty, who is believed to have reigned about A. D. 160.

The coin weighs 34 grains. On the obverse is a well made male head looking to the right. The head-dress consists of a strap with a bunch of pearls on the forehead; on the temple locks of combed hair fall over the strap, and behind the head

hangs a string knotted at the end, probably a braided lock of hair. From the ear hangs a three-ringed ear ornament, one ring below another, falling to the neck. The beard and moustache are shaven, and the face looks about 40 years of age. Around the face is a legend in ancient Nagari characters, much like the characters used in contemporary Nasik and Kanheri cave inscriptions. The legend reads *Siri Yana Sataka nisa rano Gotamiputasa,* that is, "Of the illustrious Yajna Shatakarni, the king Gotamiputra." Yajnshri's title as given in the Nasik and Kanheri cave inscriptions is *Rano Gotamiputasa Siri Yana Satakanisa,* that is, "Of King Gotamiputra the illustrious Yajna Shatakarni." The legend should, therefore, be read first from above the head to the mouth, and again from the back of the neck to the middle of the head. The reverse has in the middle a pyramidal symbol of a chaitya or relic-shrine composed of 3 tiers, the lowest of 3 circles, the middle of 2 and the highest of one. On the top is a large circular tee. To the left is the usual Shatakarni and Ujain coin-symbol of 4 circles, joined by 2 cross lines. Above these 2 symbols are a sun, with rays and a crescent moon, and below them is a zigzag serpent-like line. Round the symbols is the legend in characters exactly the same as on the obverse, and round the legend is a dotted circle. The die on this side is imperfect, as the coin seems to have slipped while it was being stamped. Six letters of the legend are only partly shown. The letters that appear entire are "Gotamiputa Kumaree Yana Satakani." Of the 6 letters, of which only the lower parts appear, the sixth is evidently sa, and the other letters from their lower parts seem to make Chaturpana. In the absence of another specimen of this coin with the legend entire, the legend on the reverse may be read Chaturapanasa Gotamiputa Kumaru Yana Satakani, that is, Yajna Shatakarni, son of Gotami, Prince of Chaturapana. Chaturapana is the proper name of Yajnashri's father. As the coin is struck in imitation of the Kshatrapa coins, which give the name of the father, and as the Shatakarnis were always called after their mothers, care has been taken to give the names of both father and mother. The workmanship of the coin is good. The style is copied from the coins of the Kshatrapas, the points of difference being the bear head, the locks of hair on the temples, and the long braid of plaited hair that falls behind.

Besides the coin, there was a small gold plate with a pressed-out image of a teaching Buddha, a piece of silver wire about 2 inches long and nearly 1/64 of an inch thick, and a little patch of gold-leaf about ⅜ of an inch square. There were also small cakes of mouldy abir powder, and 45 loose beads, a few of them glass, but mostly amethysts, beryls, and crystals, varying in size from a pigeon's egg to a pea, but all of them poor in colour and quality, together not worth more than a few rupees.

Fourteen of the stones were undrilled and 31 were drilled. Among the undrilled stones were 3 beryls, one about ¾" x 7/16", very clear and of an irregular egg shape. A second, about 5/16" x 3/16", was six-sided and flat, and a third was a 6-sided tube, about 7/16" x 3/16". Three were crystals, one a small broken half bead, a second a long, rounded bead, ¾" x ⅜", the third very clear and roughly heart-shaped, 9/16" x 7/16". One was a flat six-sided amethyst, ⅜" x ¼"; another was a small, clearly-polished carbuncle, about 5/16 of an inch long. Besides these there were 3 fragments of rough green glass, and a fourth larger stone, about 5/16" x ¼", spoilt by verdigris, of a green bottle-glass colour.

The remaining 31 stones were drilled. They were loose and in no order, but have been arranged by Pandit Bhaguanlal and found to form the left half of a three-stringed necklace. That they form a half, not a whole, necklace, is shown by there being one instead of a pair of the larger crystals, one pair instead of two pairs of fishes, and 1 instead of 2 elephant goads. The first piece, which probably formed the middle of the necklace, is a six-sided block of deep blue glass, about 1¼ inch long and 5/16 of an inch broad. It is undrilled, and was probably held by a gold catch at each end. Next comes a white and purple veined amethyst cut in the form of a Buddhist trident, about 11/16 of an inch broad and a little more in length. Next is a clear, roughly egg-shaped beryl, 11/16" x 9/16". Next come

3 small beryl tubes, the largest about ⅜" x ¼". Next is a double six-sided clear crystal, 8/16" x 11/16", like 2 six-sided pyramids set base to base. Then come a pair of conventional beryl fishes, a Buddhist symbol of good luck, about 7/16 of an inch long. Then come 3 flat circular beads, 2 of them crystal and 1 beryl, the biggest 5/16" x ¼", the others a little smaller. Next comes a beryl bead, six-sided and flat, 7/24 of an inch long and about the same broad. Next come 3 dark six-sided beads, a carbuncle and 2 amethysts, about ¼ of an inch broad. Next comes a tiny broken glass shaft, about 5/16 of an inch long, perhaps part of an elephant goad. Next comes a six-sided and flat carbuncle, 7/16" x ⅜". Next are 3 beryl beads, flat, oblong and six-sided ½" x ⅛", one of them bluer than the others. Next comes an oblong six-sided block of crystal, with 3 broad sides and 3 narrow sides, ¾ of an inch long. Then come 3 six-sided beryl beads, about ⅜ of an inch long. Then comes an irregular six-sided amethyst, about ¼" x ⅛". Next are 3 irregular six-sided beryl beads, about ¼ inch long. One of them is pierced across and not down the length, and hangs from the string. Then comes a small bead of brownish red glass, in shape like 2 pyramids set base to base, and measuring about ⅜ of an inch into ¼ of an inch. Next come 3 small beads, 2 of them irregular six-sided beryls, and the third a small six-sided block of malachite, about ¼" x 3/16". The next is a small round gold button-like ornament, about ¼ of an inch across, a central bead surrounded by six other beads. Then a gold ball, about ⅛ of an inch in diameter. Then 3 small gold tubes, 7/16" x ⅛". Then a pellet of gold, about ⅛ of an inch in diameter, and then a circle of gold balls about ¼ of an inch across. There was another gold drop that has been broken. The thin plate of gold with the pressed-out image of a teaching Buddha measures about ⅛ by ⅞ inches, weighs about 14 grains, is 620 touch, and is worth about 1s. 9d. (14 annas). The Buddha is seated on a lotus throne, and has an aureole round his head.

The silver casket, which was slight and of plain unburnished metal, weighs 7 oz. 29 grs., and is worth about £1 15s. 3d. (Rs. 17-10). It is about 13 inches round the middle, and stands 5⅝ inches high, of which 2⅝ inches are cup and 3 inches are lid. The body stands on a round rim about ½ an inch high, and rises in a bowl shape, till near the lip of the bowl, it is cut into a round groove about ¼ of an inch deep. From here the lid, beginning with a narrow double-grooved belt, rises about 2 inches, in the form of an inverted bowl. From this bowl the top rises nearly 1 inch in 3 tiers, each narrower than the tier below it, the top of the third tier being flat and about 1½ inches across. From the middle of the top rises a pointed boss about ¼ of an inch high. Between the silver casket and the enclosed stone casket were about 86 gold flowers less tarnished and rusted than those in the outer copper casket. Of the whole number, 37 were plain round dises, covered with dots, 26 were the many-leaved *bakuli* or Mimusops elengi flowers, 9 were different kinds of dises, 9 were spoilt, 5 were small stars, 2 were sunflowers, 1 was a twelve-leaved flower, and 1 a flower with 4 large and 4 small petals, placed alternately.

The stone casket is of brown claystone or sandstone, with a smooth lathe-turned surface. It measures 11½ inches round the middle and stands about 4½ inches high, of which 2 inches are cup and 2½ inches are lid. The cup stands on a heavy rim about ⅜ of an inch deep, and rises with a smooth outward curve till it meets the lid. The lid rises about 1¾ inches, like an inverted cup, in a smooth, unbroken inward curve, to a triple-tiered top, the lowest tier ¼ of an inch thick and ¼ of an inch broad, the second tier a convex band about ¾ of an inch broad, and the third tier a flat rim about ⅛ of an inch thick and 1½ inches across. From the middle of the top rises a small pointed boss, about ⅜ of an inch high.

Fitting tightly in the stone casket was a clear crystal casket about 9 inches round the middle and 3¼ inches high, of which 1¼ are cup and 2 are lid. From a flat bottom, about 2⅛ inches across, the crystal cup rises with a gentle outward bend, till at the rim it is 2⅛ inches across. From the rim the lid curves gently

inwards for about 1¼ inch. From this it rises in 3 tiers, the first a heavy rim, standing out about ¼ of an inch, the second a rounded dome about ½ inch high, and on the top of the dome a flat plate ⅛ of an inch thick and ½ an inch across. From the middle of the plate rises a small pointed boss, about ¼ of an inch high. The inside of the lid is bored in a hole about ⅝ of an inch deep and ⅜ of an inch across. In the crystal cup were 19 fresh gold flowers, 7 with 4 petals, 3 with 8 even petals, and 3 with 8 alternately large and small petals, and one, a round disc, covered with little knobs.

Inside of the crystal casket, a little too high for its place, was a casket of thin gold of 830 touch, weighing 159 grains, and worth about £1 8s. 4d.—Rs. 14-3. It is covered with waving lines of raised tracery in the Greek scroll pattern, and in the hollows are rows of minute pushed-out beads. It is about 3½ inches round the middle and about 1¾ inches high, of which 1¼ inches are lid. The cup of the casket, which has somewhat lost its shape, stands on a thin base and bends outwards in the form of a broad bowl. The lid rises in a semicircular dome about 9/16 of an inch high. On the dome, separated by a thin, round rim, stands a smooth water-pot, or Kalash, about ⅜ of an inch high, from the mouth of which rises a pointed lid or stopper about ¼ of an inch high. In the gold cup were 10 gold flowers as bright as the day they were put in. Three of them are 12-petalled, 3 have 8 even, and 3 have 8 alternately large and small petals, and 1 is 4-petalled. There is also a bit of green glass 3/16″ x 2/16″, and a little spark of diamond, which has been lost.

Covered with gold flowers were 13 tiny fragments of earthenware, varying in size from about 1 inch to ¼ of an inch long. The fragments seem to be of 3 kinds, 2 thick, 1 middling and 10 thin. The thick fragments are about ⅜ of an inch long, and about 5/16 of an inch thick. They are dark brown outside and light brown inside. The fragment of middle thickness, which is a little less than ⅛ of an inch thick and ¼ of an inch long, is whitish outside and dark inside. The 16 thin pieces vary from ⅞ of an inch to ¼ of an inch long. They are brown and about ⅛ of an inch thick. The curve of one of them belongs to a circle 5 inches in diameter.

It was suggested at the time that the relics are the remains of the begging bowl of some local saint. But the argument put forward against it was—if the begging bowl had belonged to a local saint the whole bowl would have been preserved.

The smallness of the fragments and the surrounding circle of Buddhas moreover gave every reason to conclude that the Sopara relics were believed to be pieces of the alms-bowl of Gautama Buddha,—the Eastern Grail—which has a special interest from the resemblance between the legends which gather round Buddha's bowl and the legends which gather round the Grail, the holy bowl of Western Europe.

In the beginning of the V Century, the past and the future history of Gautama's bowl were told by an Indian Buddhist to the Chinese pilgrim Fah Hian. The Indian's account was that Buddha's bowl was first at Vaishali, the modern Besarh on the Ganges, about 27 miles north of Patna. In Fah Hian's time the bowl was on the borders of Gandhara in the Peshawar relic mound. In about 100 years (500) it would go beyond the Axus to the country of the Western Yuetchi. After 100 years, with the Yuetchi, it would pass (600) to Khoten, east of Yarkand. The VIII Century would find it at Koutche, to the north of Khoten. In the IX Century it would be in China. It would pass the X Century in Ceylon, and the XI Century in Mid-India. It would then go to the paradise of Maitreya, or the coming Buddha, in Tushita. Maitreya would say with a sigh, "Gautama's bowl is come." After 7 days' worship it would go back to India and a sea-dragon would take it to his place and keep it till Maitreya was about to become Buddha. It would then divide into 4 and return to the 4 rulers of the Air, from whom it originally came. When Maitreya became Buddha, the 4 kings of the

Air would present him with the bowl. All future Buddhas would use it, and when the bowl disappeared, the law of Buddha would perish.*

During the last 2,000 years 5 chief bowls have been worshipped as Gautama's Begging Bowl: the Ceylon bowl, the Peshawar bowl, the China bowl, the Khandahar bowl, and the Ladak bowl. All of these, except the Ladak bowl, have been of stone, and have claimed to represent the stone bowls received by Gautama from the four kings of the Air.

The Ladak bowl is described by Cunningham as a large earthen ware vase similar in shape to the 2 largest stone vases found in the Bhilsa mounds. Cunningham supposed it to be the same as the spittoon of Buddha which Fah Hian (410) saw at Kartchon, west of Yarkand, and which he describes as of the same colour as the Peshawar alms-bowl.

The smallness of the fragments and the fact that they are of clay, not of stone, give the Sopara relics a higher claim to represent Gautama's alms-bowl than these heaven-born wonder-working bowls, which have remained unharmed by time and change. That in the II Century A. D., they were believed to be pieces of the true bowl seems beyond doubt. The date is fixed by the coin of Gotamiputra II. (A. D. 160), and, as has been noticed, the circle of Buddhas which surrounds the relic-casket means that they are gathered round the mystic bowl which is to be passed from Gautama to Maitreya.

Of the wonder-working power of Buddha's bowls, the following are the instances:—

A king of the Yuetchi determined to carry off the Peshawar bowl. He set it on an elephant, but the elephant fell under its weight. He built a car and harnessed to it 8 elephants, but the car stood fast. The bowl's time for moving had not come, so the king worshipped it and founded a monastery.[1] Out of the Chinese bowl food for one satisfied five.[2] The Ceylon bowl brought rain.[3] The Kandahar bowl cures sickness.[4]

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*Beal's *Fah Hian* 161-163.

[1]Beal's *Fah Hian* 38. [2]Yule's *Marco Polo*, II. 264. [3]Turnour's *Mahawanso* 148. [4]*Le Messurier* 225.

REV. WILLIAM COPELY WINSLOW, D. D., L. H. D., LL.D., D. C. L.

## DR. WINSLOW AND THE EGYPT EXPLORATION FUND

AMERICANS have been equally interested with Englishmen in the work of historical research in Egypt, and have been quite as liberal in providing funds for carrying it on. It is greatly to be regretted that circumstances have arisen, during the past 3 years, which have caused many distinguished citizens of this country to withdraw their support from the Egypt Exploration Fund. The reason for this has just been given to the public in a monograph entitled *The Truth About the Egypt Exploration Fund,* by the Rev. William Copley Winslow, D. D. LL. D., D. C. L., late Vice-President and Honorary Secretary of the Society.

THE EGYPT EXPLORATION FUND was founded in London in 1883 by the late Miss Amelia B. Edwards, LL. D.; R. Stuart Pool, LL. D., and Sir Erasmus Wilson. At the close of the same year, Dr. Winslow organized an American branch to co-operate with the English society in its work. It may be truthfully stated, that no organization for the purpose of prosecuting the work of historical research, has accomplished so much as this Society. Its success has been largely due to the financial aid contributed by Americans. For the interest created here in the work in Egypt and for the large sums of money contributed annually by the people of this country, both Americans and Englishmen, are almost entirely indebted to Dr. Winslow. He was unselfish and devoted in his work. He did not ask for and did not receive a salary. He succeeded in interesting the American Press throughout the country in the work and contributed many articles to newspapers and magazines. He wrote thousands of letters to individuals appealing for contributions to the Society and as we have stated, was eminently successful. In the whole history of exploration there is not to be found another such example of self-sacrifice and devotion.

In 1896 the American branch had grown to such an extent that Dr. Winslow suggested a committee, or rather appointed one to co-operate with him. A year later the London Committee officially recognized the Boston Committee. A member of the Boston Committee nominated to the London Society a Mrs. Buckman or Mrs. Bickmore (as she was then known) as office secretary, with salary, to transact the routine office work under the direction of Dr. Winslow as Honorary Secretary. In a few months Dr. Winslow found that Mrs. Buckman or Mrs. Bickmore was unfitted for her position. It was very evident that she intended to conduct the affairs of the American Branch. Dr. Winslow was ignored and correspondence of great importance was kept from him and he was subjected to many annoying acts by his office assistant. The Boston Committee seemed to be completely under her control. Mr. Cotton, the English secretary, who came over to report upon the condition of affairs, and only investigated one side of the case, became a devoted friend of the office assistant. His report to the London Committee was most untruthful and his efforts as an official of the Society to advance the interests of Mrs. Buckman or Mrs. Bickmore were disgraceful to him and to the cause he represented. He succeeded in having this woman placed on the London Committee as representing the American branch. Last year Dr. Winslow informed the London Committee that he would no longer be associated with such an office

secretary, and suggested the names of several prominent subscribers in America for a committee to represent the American Branch and conduct its affairs. But Mr. Cotton and his clique, who were seemingly in control of the London Committee, ignored the rights of the subscribers in this country and requested a person who was not a subscriber to the fund to form an American Committee. It was this person who had nominated Mrs. Buckman or Mrs. Bickmore to her position. The documentary evidence Dr. Winslow sent to the London Committee resulted in her removal. To appease her friend, Mr. Cotton, the Committee removed Dr. Winslow from his position. The local secretaries in the United States sent a request that Dr. Winslow be at once re-instated. Thus far the London Committee has failed to do so.

The reason that we call the attention of our subscribers and the general public to this outrage by the London Committee is that the work of historical research in Egypt is too important to suffer from the unprincipled and selfish ambitions of one or more persons. The founders of the Egypt Exploration Fund intended the Society to labor for the great cause in which the scientific and religious world was, is and ever will be interested—*Truth*. The London Committee had better go back to first principles. The treatment Dr. Winslow has received from it has been resented by hundreds of the most eminent subscribers to the Society and the loss of thousands of dollars to the work.

The American subscribers are able to attend to their own affairs and have the moral and legal right to do so. We advise all contributors to withdraw their support to the Egypt Exploration Fund until its Directors right the great wrong they have done Dr. Winslow and restore him to the position he filled for so many years with honor and credit to the Society and the work of historical research. If the London Committee will not do this, then Americans interested in the work of exploration in Egypt should organize an American society and conduct their own explorations.

We know that the above statement is put in strong language, but to show that it is justified we give the following extracts from letters sent to Dr. Winslow by eminent American contributors to the Fund. We might extend the quotations indefinitely, but those given are sufficient to prove that our presentation of the case is justified by the facts. The editor of RECORDS OF THE PAST has been personally acquainted with Dr. Winslow since 1880 and is glad to add this tribute to his life of self-sacrifice and devotion to the great cause to which this journal is pledged.

EXTRACTS FROM LETTERS SENT TO DR. WINSLOW AFTER THE RECEIPT OF HIS MONOGRAPH ON "THE TRUTH ABOUT THE EGYPT EXPLORATION FUND":

*From the Bishop of Pennsylvania, the Rt. Rev. O. W. Whitaker, D.D., LL.D.*: It has the charm of a well-told detective story; but its revelations of ambition and deceitfulness on the part of some, and of unscrupulousness and inconsistency on the part of others, with whom you were associated, are painful. The action of the London Committee is amazing. The Fund owes far more to you than to anyone else, etc.

*From the Rt. Rev. Cameron Mana, D.D.*: I entirely sympathize with you.... I shall have nothing more to do with the Egypt Exploration Fund until it has made all honorable amends.

*From the Rev. Morgan Dix, D.D., D. C. L., rector to Trinity Church, New York*: I have just finished it, going through it from beginning to end. My feelings in reading it were those of surprise, astonishment, indignation and disgust. It has almost the quality of romance, not the unreality, but the absorbing interest. What a strange story has been yours! To have labored so long, so disinterestedly, so enthusiastically, so successfully for a great cause, only to be circumvented and thrown aside, the victim of secret plots and a miserable ambition!....I feel

aggrieved at the weakness and carelessness with which the persons behaved, who should have upheld you and routed your adversaries. I am very glad that you have stated your side of the case so clearly; and I repeat with reverence, applying the words as the occasion suggests: He shall make thy righeousness as clear as the light and thy past dealings as the noon day.

....But now I withdraw entirely from membership, and decline to aid any further, until full justice shall be done to you, and reparation such as the wrongs demand....You have my sympathy, and the assurances of my full confidence and warm regard.

*From the Rev. Reese F. Alsop, D.D., rector of St. Ann's Church, Brooklyn*: I am convinced that the London Committee have acted unfairly and very unwisely in the course that they have taken....I certainly shall not renew my subscription until the proper amends be made to you.

*From the Rev. Henry C. Cunningham, Boston*: I am glad you have had the courage to tell the truth....Matters on this side should be managed by those who subscribe to the Fund.

*From M. A. Greene, L.L.B., Providence*: It is simply amazing, and I am most thoroughly indignant.

*From the Rev. Daniel Goodwin, Ph.D., D.D., of East Greenwich, R. I.*: Unless the London Committee retraces its steps by making all possible amends to you and apologizing to the Local Secretaries for its cavalier treatment of them, it will stand permanently discredited in America. As for the Boston Committee, it has no standing as the representative of American subscribers, and is substantially a self-appointed body....Time is sure to vindicate you.

*From the Rev. S. M. Warren (Brookline), of the New Jerusalem Church*: I have read it with painful interest—and with a feeling of astonishment at the unaccountable injustice of the London Committee to yourself personally, who have done so great service to the Fund—and to the whole body of American subscribers. The poor, unworthy Secretary, impelled by her paltry ambition, would soon have come to the end of her tether, without great harm to anybody but herself, if the London Committee had acted like a body of judicial-minded men intrusted with the management of grave affairs.

*From W. H. Ward, D.D., LL.D., Edittor of The Independent*: I am fully convinced of the injustice of the treatment you have received, and of the unwisdom, to say the least, of those who have made this evolution.

*From President F. D. Blakeslee, D.D., LL.D.*: I shall never pay another dollar until this great wrong is righted.

*From Hon. E. E. Farman, LL.D., long our Consul-General in Egypt, etc.*: I shall not renew my subscription until this great wrong shall have been righted, as it surely will be if there is any manliness or sense of justice in the London Committee.

*From Hon. James P. Baxter, President of the New England Historical Society, Boston*: I more fully realize than ever how great a wrong has been done you. It is indeed a strange story, and should overwhelm those with confusion who have plotted against you.

*From James Schouler, LL. D., Boston, late President of the American Historical Association*: The pamphlet confirms me in the impression that you have been most unjustly treated.

*From President W. F. Warren, D.D., LL.D., Boston University*: I have carefully read every page of your most interesting Statement, and I am glad to have the *lacunæ* in my previous information so authentically filled. The reading has fully decided me to withhold further contributions until the London Committee bring forth fruits meet for, and evidences of repentance.

*From Gen. T. L. Chamberlain, Ex-Gov. of Maine*: It is a wonderful story, and you have told it with great prudence and skill, considering what you had to say and to refrain from saying. The injustice done you by the action of the General Society (*i. e.*, London Committee) is made manifest; and it is unaccountable.

ICE CLIFF, COVERED WITH SOIL ON THE BERESOWKA RIVER NEAR THE SPOT WHERE THE MAMMOTH WAS FOUND

THE GREAT SIBERIAN MAMMOTH AS IT IS MOUNTED IN THE ST. PETERSBURG MUSEUM

## RECENT MAMMOTH DISCOVERIES

THE WILD statements which have appeared during the last month in our daily papers announcing the age of the great Mammoth which has recently been stuffed and placed in the St. Petersburg Museum as 100,000 years, and the accompanying pictures representing him as climbing over huge mountains, call for a more careful study of the physical and geological conditions in which this Mammoth was really found, from which a closer estimate as to the probable date of his burial can be reached. The general statements concerning the locality in which the Mammoth was found and the description of the Mammoth itself have been fairly accurate, as most of these reports were based on an article which appeared in the *London Sphere.*

The general appearance of this Mammoth is the same as that described in an earlier article published in the August issue of RECORDS OF THE PAST on the *Mastodon and Mammoth Contemporary with Man.* The carcass was found on the Beresowka River 67° 30′ north latitude 150° 33′ east longitude. It was buried in ice, but not glacial ice, as has been stated in many of our daily papers. The term "fossil glacier" applied to this ice by Baron Toll, is a misnomer. The deposit is what the Germans and Russians call "ground ice" and is quite different from glacial ice. The manner in which this formation was deposited has not been satisfactorily explained nor has its geological age been determined in terms of thousands of years. However, that 100,000 years, which seems to be the popular age assigned to this Mammoth, is too high an estimate will be evident from a general consideration of the formation of the river deposits along the Arctic literal.

### GEOLOGICAL FORMATION IN WHICH THE SIBERIAN MAMMOTH WAS FOUND

The whole northern border of the Arctic tundra region of Siberia, consists of a very remarkable geological formation. An ideal section would show on the surface a thin layer of soil, and below this layers of ice and frozen gravel interbedded. Many rivers flowing into the Arctic have been cutting their channels through these beds of ice and gravel. However, that these conditions are not confined to the river valleys is shown by the discovery of Mr. J. Stadling, who found on the tundra west of Olenek that the thin strata of soil was underlaid by "pure rock ice" the same as had been observed along the river banks. In the river valleys the gravel deposits interbedded with this ice would naturally be more numerous than nearer the water shed.

It was in one of these formations that the Great Siberian Mammoth was discovered on the Beresowka River, a tributary of the Kolyma. The following description of the locality is translated from Mr. I. P. Tolmatschow's report on *The Ground Ice of the Beresowka River* (*Northeastern Siberia.*)

The Mammoth carcass lay in the slope of the left bank of the Beresowka, which is continually being washed away by the river. The Beresowka here makes a great bend by which a low alluvial half-island (in high water an island) is formed, overgrown with willows and other shrubs.

The bank rises from the Beresowka with a steep slope to a height of 55 m. above the flood plain, then a flat terrace almost ½ kilometer broad extends some kilometers back from the river. The terrace joins the ridge of a hill—120 m.

GENERAL VIEW OF THE LEFT BANK OF THE BERESOWKA RIVER WHERE MAMMOTH WAS FOUND

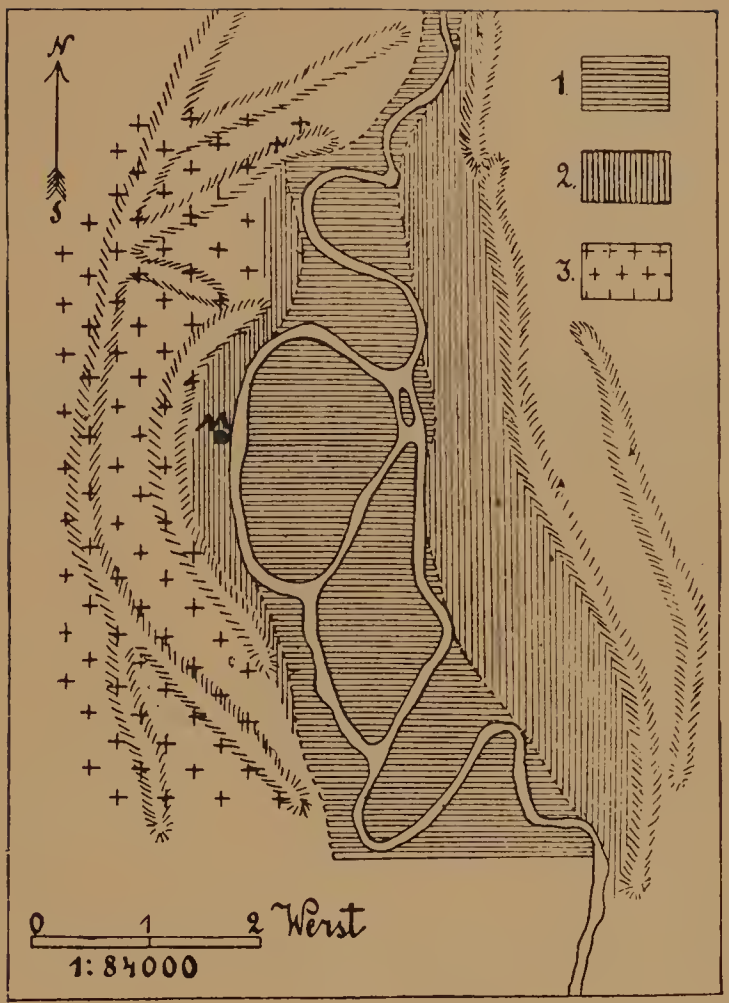
high, which is separated by a slight depression from the second more westerly lying chain 180 m. high. Mr. Herz could not reach the bank directly opposite, however. Here he has drawn on his sketch as if a "Taiga" approached on the left terrace, which he distinguished from the lower strata of the latest alluvial deposit on the Beresowka, and which extends along the river as a broad stretch of land.

We now turn to the consideration of the geological formation of the upper terrace. 1. On top is a layer of soil 30 to 52 c. m. thick. 2. Under the strata lies clay with many water-worn stones, generally of large size, their petrographical composition corresponding to the rock of the underlying hill, with a thickness of from 2 to 4 m. With the water-worn stones in this strata occur pieces of wood, bone, etc. Through this clay-mass layers of ice are found in a pronounced bed 15-18 c. m. thick. Under the clay-bed lies ice, which forms a wall 5 and sometimes 7 m. high.

These deposits in which Mammoth remains have been found were formed at the close of the last great continental land movement in Northern Asia. They belong to the epoch during which the great change of elevation that raised the steppe region of Central Asia above sea level took place and the same period which gave birth to Lake Baikal. The evidence of the recentness of this change of level is very striking. A calculation as to the age of Lake Baikal based on the amount of sediment which has been brought down by the Selenga River and deposited in the south end of the lake shows its age to be not more than 50,000 years and probably scarcely 30,000.*

The elevation of the Central part of Asia which converted the great steppe region from sea bottom to dry land and left Lake Balkash, the Arial and the Caspian seas as remnants is equally striking. All these changes bear the approximate date of the close of the Glacial Period. That the close of the Glacial Period in North America was not more than from 8,000 to 10,000 years ago is quite generally admitted and Professors Winchell and Salisbury do not place its close, in the Mohawk and St. Lawrence valleys, at more than

*For a full discussion of the age of Lake Baikal, and the recentness of the last great land movements in Northern Asia, see Wright's *Asiatic Russia*, Chap. XXVI, pp. 485-516.




GEOLOGICAL MAP OF THE REGION WHERE THE MAMMOTH WAS FOUND. 1, ALLUVIAL FLOOD PLAIN OF THE BERESOWKA RIVER; 2, OLD TERRACE FLOOD PLAIN—"TAIGA;" 3, CRYSTALINE PORPHYRY; M, PLACE WHERE MAMMOTH WAS FOUND.

CROSS SECTION OF THE LEFT BANK OF THE BERESOWKA RIVER IN THE REGION WHERE THE MAMMOTH WAS FOUND. a, SOIL; c, GRAVEL; d, ICE WALL; f, BLOCK OF ICE; g, CAVITY IN THE SAME. [TAKEN FROM *Ground Ice of the Beresowka River.*]

MAMMOTH SKULL FOUND IN TEXAS NOW MOUNTED IN THE AMERICAN MUSEUM OF NATURAL HISTORY IN NEW YORK CITY. THE TUSKS ARE THE LONGEST WHICH HAVE BEEN FOUND AND MEASURE 13 FEET AND 10 INCHES

7,000 or 8,000 years ago. The date of the Glacial Period in Europe and North America is generally conceded to be approximately the same. And the Glacial Period in Europe was very closely connected with the great land movements of central Asia, if not actually contemporaneous.

Although none of these considerations prove definitely the age of the deposits in which the Siberian Mammoth was found, yet they all indicate a much less venerable antiquity for the St. Petersburg Mammoth than 100,000 years and even 30,000 years is probably too high an estimate, especially as he was buried in the river deposit subsequent to the formation of that deposit.

In connection with this Siberian Mammoth it is interesting to notice the skull of the great Mammoth found in Texas, which has just been mounted in the New York Museum of Natural History, a photograph of which has been furnished us by Professor Osborn.

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# EDITORIAL NOTES

**AFRICA:**—EGYPT: Naukratis, which has been undergoing excavation since 1884, by different parties, is now completely explored. This city, in the Nile Delta between Alexandria and Cairo, was one of the most cosmopolitan cities of Egypt. Like most of these Delta cities it was almost entirely built of clay bricks and so no imposing architectural buildings remain to attract the general tourist. The archæologist and historian, however, have been attracted to the spot because it was the site of the Hellenion, made famous by Heroditus. The northern part of the mound was the Hellenion. The Greek section of the city was quite distinct from the native Egyptian. The finest work of the Greek potters has been found here and much of it dates back to the VI Century B. C. The best of the terra-cottas were found in the shrine of Aphrodite. The city shows evidence of having been sacked early in the V Century B. C., for below the remains of buildings dating from that period older foundations are found separated from the latter by a thick stratum of debris.

**ASIA:**—Sir William Wilcocks has been surveying the remains of the old irrigation works in the Tigro-Euphrates Valley to ascertain how far it may be possible to repeat those engineering operations in the Mesopotamian lands. He has found that formerly 3 distinct irrigation systems existed between Dura and Babylon, one on the left, another on the right bank of the Tigris connecting that River with the Euphrates on the plains of the Shinar. Near Opis (later Antiochia) at the head of its inland delta, the Tigris is joined by the Atheim (Physcus), on the left, and lower down by the Dyala (Delas), just above Bagdad. Here were developed the two systems of the Tigris proper, that of the Mahrwan canal on the left, and the Dijeil on the right bank. The Nahrwan, the best canal ever constructed in China, had its original head at Dura, about midway between Nineveh and Babylon, where the intake is still marked by the massive ruins of Kamtereh-Resareh. From this point it was carried southward for 240 miles along the left bank of the main stream, feeding all the secondary canals drawn from the Atheim and the Dyala, and supplying abundance of water to many hundred thousand acres of rich alluvial

lands. In the section between the 100 and 120 mile, where Nausherwan's ruined palace forms a striking landmark, its banks are studded with ruined cities, and in some places this vast artificial artery was from 40 to 50 feet deep and over 360 feet wide. Its sudden ruin caused by some unexplained diversion of the upper waters, brought about that utter desolation from which the middle Tigris region has never recovered. The second (Dijeil) system, though smaller, was still very extensive, and jointly with the first must have sufficed to irrigate nearly 2,000,000 acres of extremely fertile but now waste lands.

**ASIA MINOR:**—SYRIA: In one of the Mosques at Damascus a large number of manuscripts have recently been found and partly deciphered. Dr. Violet was sent out by the German Government and spent 9 months examining these writings and finally obtained possession of them, for the German Government, with the promise that they should be returned to the Turks, as the contents of the Mosque is unsalable according to the Mohammedan rules. The documents comprise writings of the Crusaders which were seized by the Moslems. There is one letter providing for the safe conduct of King Baldwin V, of Jerusalem to a Merchant. There are also a number of fragments of Hebrew literature comprising profane documents, marriage contracts, synagogue liturgies and fragments of the Old Testament. The fragments in Samaritanic language are of the greatest interest, especially the calendar.

**EUROPE:**—ENGLAND: An interesting decision has just been rendered in the Chancery Court of London in reference to the right of the British Museum to hold a collection of Celtic gold ornaments found in the North of Ireland, which the Museum purchased in 1897. The claim was made that all antiquities found in Ireland must remain in that country, and the Court upheld the contention and ordered the collection to be turned over to the King. This is a far-reaching decision and will affect the antiquities found in Scotland and Wales. As the British Museum is the national repository for antiquities found in the British Empire, it would seem natural that it should have the right to hold what it had purchased. It would be exceedingly inconvenient for students to go to Ireland, Scotland and Wales to study their antiquities.

Mr. W. J. Nichols has recently directed the attention of the British archæologists to the vast subterranean chambers at Chislehurst, England. These chambers have been excavated for many miles under ground, but their date has not yet been ascertained. Starting from the only entrance in the face of the cliff the passages extend for about 4 miles, and were excavated with considerable regularity. They measure from 6 to 10 feet in height with an occasional passage of less height. The breadth varies from 3 to 12 feet. "The walls, (says the London News) in the solid chalk, show numerous marks of the workman's pick and curve in slightly at the top, with a flat roof formed by the lower surface of a stratum of chalk. There are alcoves or side chambers with bee-hive shaped domes, daisies, or altars, side passages ending in a *cul-de-sac,* and in one of these labyrinthine walks is a well of very fine and true work, and reaching to about 300 feet in depth. Conjectures have been widely hazarded as to the object of these workings, but nothing at present is definite beyond the fact that Roman pottery and worked flints have been found."

SPAIN: Dr. Eugene Pittard in the *Revue L'Ecole D'Anthropologie* of Paris reports a cranium which was discovered in quartinary deposits at Perales, Spain, a town about 24 miles from Madrid. In the same deposits with this cranium several bones of the mastodon and shells of molesks were found. Mr. Pittard does not think that the cranium is certainly determined as belonging in

the quartinary but thinks the evidence good enough so that it is worthy of consideration. The cranium is very fragile and discolored by a brownish-red stain.

**GREENLAND:**—Dr. Daniel Bruun, a Danish explorer, has been investigating the remains of the X Century Icelandic settlements that were probably destroyed the middle of the XV Century by the invading Eskimos. The colony was divided into two districts, the Vesturbyggd and the Austurbyggd, the latter much the larger. Owing to a misreading of the Saga texts, it was long taken for granted that these names indicated the situation of the settlements on the western and eastern coasts of Greenland. Many explorers, at various times, have sought for remains of these old Norse settlements, but misled by the geographical error, failed to find them, until finally, as late as 1830, the Danish Captain Graah succeeded in discovering several farmsteads and the walls of a church, together with a runic stone, thus proving that the terms employed signified the relative westernmore and easternmore positions of the settlements on the southwest-facing coastline of Greenland. In 1894 Captain Bruun undertook his first voyage to Greenland, and confined his observations mainly to the Austurbyggd in the modern district of Julianeshaab. This year he has been chiefly engaged in seeking for the almost unvisited Vesturbyggd, lying in the district of Godthaab, and has brought back most gratifying results. Owing to native traditions, the Eskimos have, from the days of the missionary Hans Egede, shown great unwillingness to assist in any researches connected with the story of the Old-Northern colonists, but Captain Bruun was accompanied, for much of the time, not only by the official Danish inspector of South Greenland, but by the well-known and intelligent native printer, Lars Möller, who enjoys the respect of all his fellow-natives.

**NORTH AMERICA:**—UNITED STATES: President Harper of Chicago University, has succeeded in obtaining the firman from the Sultan of Turkey giving them permission to excavate at Bismya in Central Babylonia. They will be under the protection of the Turkish Government and expect to begin work within a few months under the direction of President Harper's brother, Prof. R. F. Harper. If Bismya proves to be the site of the ancient city of Isin a vast amount of important historical and archæological data will doubtless be obtained.

In the July issue of the *Wisconsin Archaeologist* Mr. Publius V. Lawson gives a complete list of the obsidian implements which have been found in Wisconsin. This list is specially interesting because no obsidian could have been obtained from the native rock of the State or from the glacial drift. Practically all of this material must have been brought from the Rocky Mountain region, some of it from as far south as Mexico. Mr. Lawson enumerates 17 obsidian implements, giving a short description of each and also the locality where it was found.

The expeditions to the West which have been sent out by the American Museum of Natural History this year, have been very successful in collecting large reptile skeletons as well as other important fossil remains, including a new link in the chain showing the development of the horse. The specimen which is attracting the most attention at present is the skull of a huge dinosaur, which is the largest yet discovered. The skull is 7½ feet in length by 5½ feet in width and when packed weighed 3,100 pounds. The animal had 3 horns and somewhat resembled the rhinoceros in general appearance. His protective armament, like most of the reptiles of that geological period, was composed of

heavy plates of bony or horny substance. He was herbivorous. This discovery was made about 135 miles from Miles City, Montana, in a bluff on a branch of the Missouri River. The geological formation in which it was buried is called the Laramie Beds, which is the lowest division of the Upper Cretaceous. This was the age of large, clumsy, heavily armored reptiles, and marks their culmination in numbers and size.

Perhaps one of the most interesting buildings recently devised is the Greek Theater built on the slopes of the Berkely Hills for use in the academic festivals of the University of California. The topography of the country and the climate make this an ideal spot for such an open air theater. Prof. John Galen Howard has had the planning of this building. Although it is modeled after such a Dionysian as that of Epidaurus and resembles it in its proportions and is archæologically correct, "It is in no way a slavish imitation of any Greek original, but a genuine response to need, sympathetic no less with nature than with tradition."

The following description of the Theater is taken from the University Chronicle:

Overhung by a grove of lofty eucalyptus trees, the theater leans against the high hill slope. The auditorium is semicircular in form, 254 feet in diameter, and divided into two concentric series of tiers of seats. The first series is arranged about a level circle, 50 feet in diameter and 6 feet below the stage, which corresponds to the space anciently devoted to the chorus. Beyond this circle the succeeding rows of seats rise gradually until the stage level is reached at a circle marked architecturally by a broad aisle termed by the Greeks the diazoma. Beyond the low wall which protects the outer side of the diazoma, the seats rise up more steeply, approximately at an angle of 30 degrees, to the outer limit of the theater. In this "theatron" 7,000 spectators can be seated comfortably, and each will fancy his own ledge best of all for seeing and hearing.

The auditorium is fronted on the west by a magnificent stage, 133 feet wide and 28 feet deep, entirely open toward the theatron, but closed in on the other 3 sides by a wall 42 feet in height. This wall—the ancient skene—is enriched by a complete classic order of loftly Doric columns, with stylobate and entablature. The ends of the side-walls toward the auditorium form 2 massive pylons. Five openings pierce the stage walls. In the center is the "royal door" of the ancients, flanked by minor doors at right and left, and in the return walls at either end of the stage are massive doorways to the "strangers house."

The entire building is of Portland cement concrete. The final detail of the stage wall, including mouldings, capitals, metopes and triglyphs, cornices and architraves, has been executed by hand in cement.

A theater of this kind will not only be of great service to the University for its public gatherings, but will be a lasting archæological object-lesson which cannot fail to impress all students and visitors at the University.

# RECORDS OF THE PAST

VOLUME II NOVEMBER, 1903 PART XI

Volume II

# RECORDS OF THE PAST

Part XI

REV. HENRY MASON BAUM, D.C.L.
Editor

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MR. FREDERICK BENNETT WRIGHT
Assistant Editor

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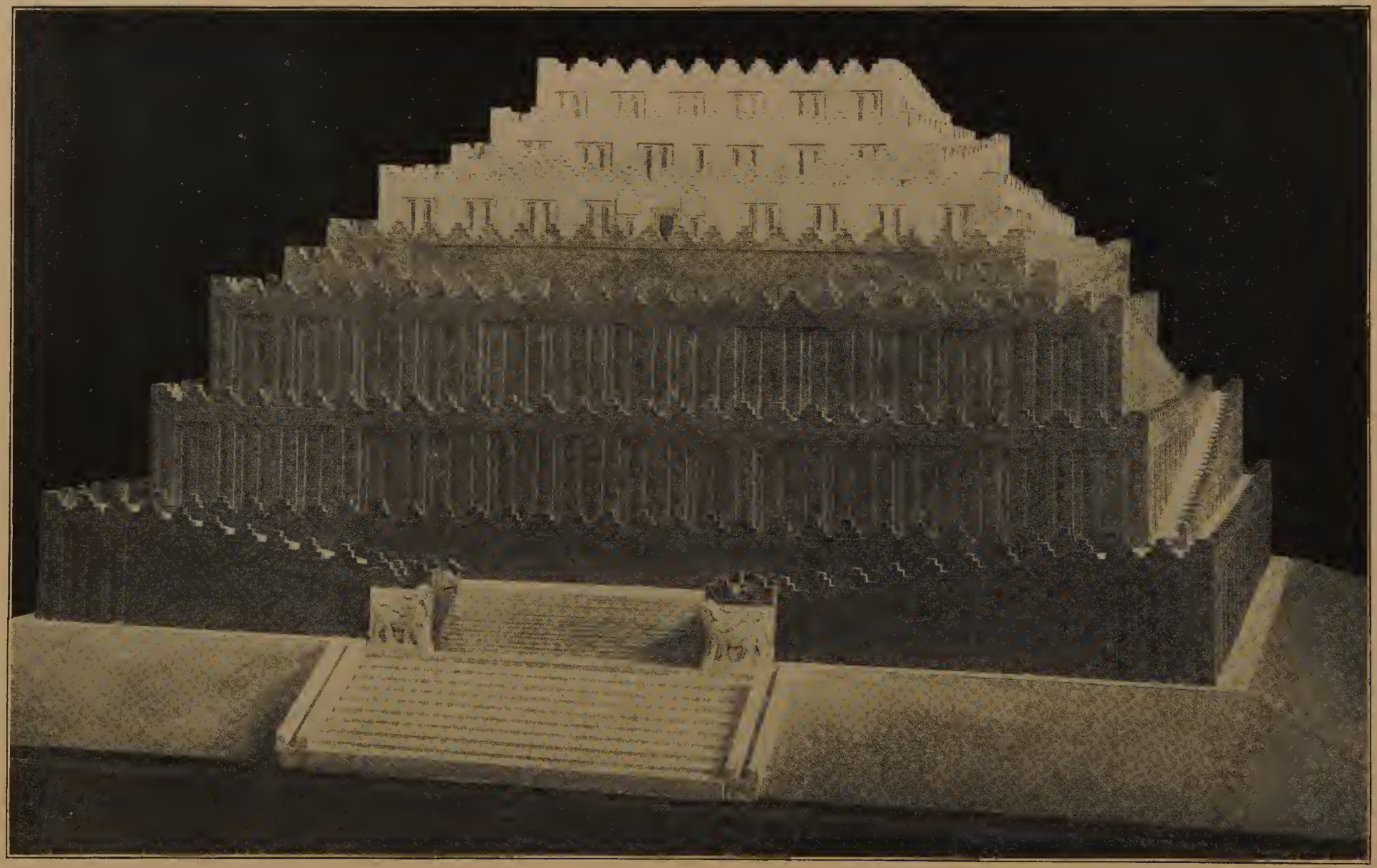


MODEL OF BABYLONIAN TEMPLE-TOWER, IN THE UNITED STATES NATIONAL MUSEUM

# RECORDS OF THE PAST

VOL. II

PART XI

NOVEMBER, 1903

## ESAGILA, THE BABYLONIAN PANTHEON

BY DR. FRIEDRICK DELITZSCH

LIKE most Babylonian temples, the chief temple in Babylon was called Esagila in the ancient sacred language of the land. In syllables, viz., *E* for house, *sag* for head, and *ila* for holy, meaning the House of Heaven and Earth. As far as we know, Sumulailu, the second king of the I. Babylonian Dynasty in the 4 years of his reign, built the great Wall of Babylon to insure his independence against his mighty Northern neighbors, Sippar and others of great power. He also built a glorious palace for Marduk, the god of the City, and a magnificent throne of gold and silver and a portrait of the wife of Marduk, the Goddess Zarpanit. Esagila, the Temple of Heaven and Earth, was built by his son Zabum in the second half of the III. Millennium before Christ. King Hammurabi, his nephew, succeeded in uniting North and South Babylon into one grand empire, with Babylon as the capitol city. Esagila was then called by the Jews, Esakkil, and so Esagila became the holiest of the holy temples of all the Babylonian peoples, and the names of the Marduks became forever resplendent. From the earliest history we know that the Arabs used the sickle or half moon as the emblem of their luck, and the Turks maintain it as their emblem to the present day. Marduk, the god of the Sun, in his city, continued to rise to higher glory and power, but even this could not prevent the ill-fate that overtook him. He was carried off by the enemies of the land, and the Babylonian people, overawed by wonder, declared innocently

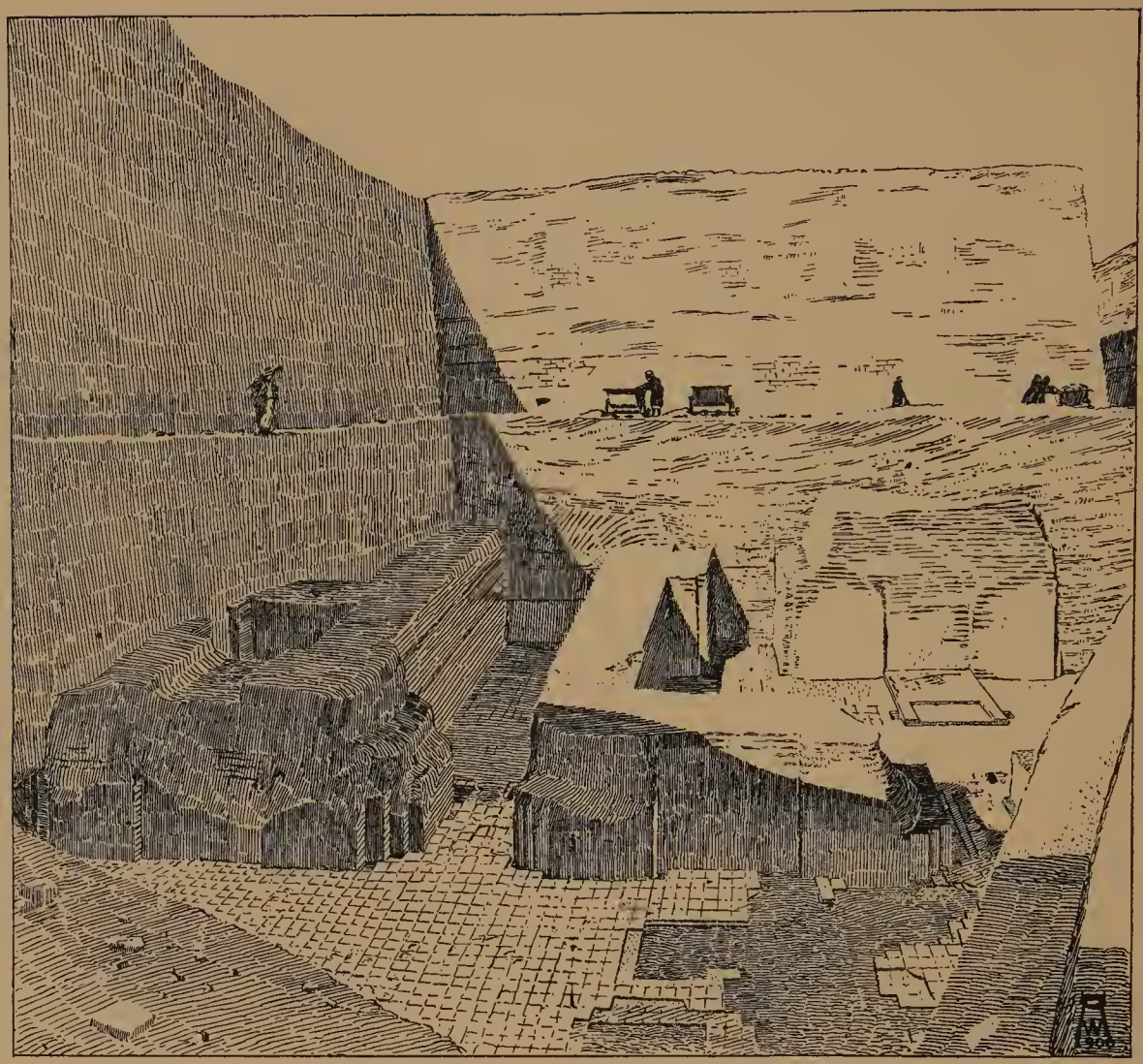
that Marduk was angry with his people, and that it all happened by his own divine power, and so the portraits of the godly pair, Marduk and Zarpanit, were carried to Northern Syria, until 2 god-heads were regained by the Babylonian King, Agum, from the distant land of Chanu. Agum clothed them both with diadems and glorious robes before replacing them in the holiest of holies. In 1,300 B. C. the Assyrian King, Tukulti-Adar, conquered Babylon and as he destroyed the great wall and the City and plundered the Temple, Esagila, he took the god Marduk and housed him for many years in Assyria.

This great catastrophe befell Babylon and its Temple under the Assyrian King Sanherib. The continual rebellion of the Chaldean princess in Babylon against this Assyrian yoke, exasperated him, Sanherib, to such a degree that he determined to cut this scar out of the body of the Assyrian empire, and to burn it and obliterate it forever. On the first "Kislev" of the year 689 the fate of Babylon was sealed, and his command went forth to surround and conquer the City, massacre young and old and spare no one. He ordered Esagila, the Temple, to be sacked and robbed of its god-heads; the Temple, the City and the buildings to be laid waste, and burned with fire; also the towers to be razed to the ground, the foundations uprooted, the whole to be thrown into the Canal Arachtu, and throughout the whole City Sanherib ordered dykes to be opened so that the water of the canal might flood and bury the City forever. "Even the foundations I have destroyed, and greater than the destruction caused by the Sin-flood (Sundfluth) in this destruction caused by me."

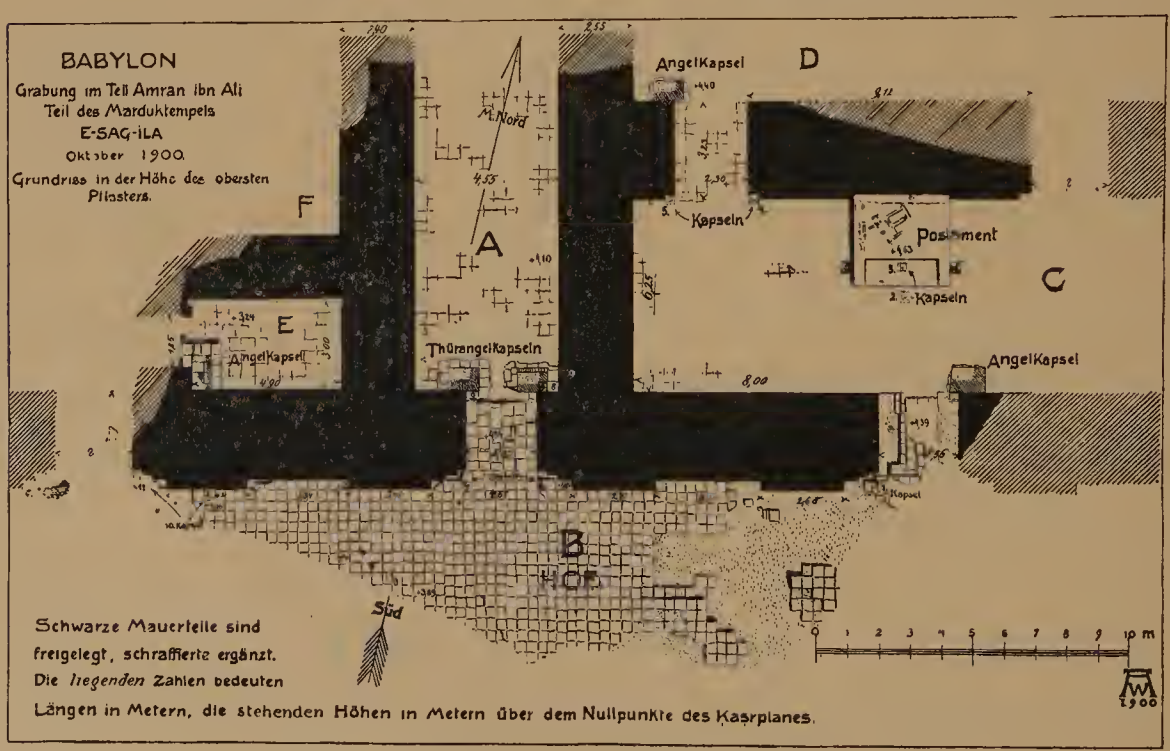
This last catastrophe ends the first and oldest period in the history of Esagila, the Temple in which the great and mighty Assyrian kings prayed to the god Bel-Marduk. The Temple, in whose courts, the worshippers from far and near assembled, lies in ruins on the ground, but in spite of all this the excavations of Dr. Koldewey have brought to light the fact that everything was not destroyed and that the will of Sanherib was not completely fulfilled because archives of the City are found; Sacrament vessels and deeds, even of this first period, are still preserved. So the gift deed of Marduk-nadin-ache [See *Mittheilung* S. 25 ff.] and the royal gift of the Babylonian kings Marduk-nadin-Shum [See *Mittheilung,* No. 5. S. 14 f.] easily show how much we may expect after a careful search has been made among the existing fragments of the Temple, Esagila. According to a legend of those saved out of the Sin-flood from Armenia, where the ship had stranded, they returned to Babylon and made it a habitation and so Babylonia was rebuilt after the second judgment, into a new and glorious state.

Tukulti-Adar, the same who once laid hands on the holy City of Marduk, fell the victim to a conspiracy headed by his own son, and so also Sanherib was murdered by his own kinsmen. His younger son, Esarhaddon, who added the kingdom of Nineveh to his inheritance of Babylon, made it his chief object to rebuild the City of Babylon and also the Temple. Esarhaddon was called the "Lion" by his envious neighbors. He was a man of great destiny and made the arms of his Assyrian host resplendent with glory. In whatever his great ancestors tried and failed to accomplish he was successful. He was a great patron of art and industry and much disposed to encourage any noble effort. He was really a great king for his people and the first real protector of Babylon and its Temple, Esagila, after Marduk had been angry for 10 long years. Esarhaddon gave command that Babylon, and above all the Temple, should be rebuilt, and he began working unceasingly upon his project, which, however, he failed to accomplish. His death occurred before he accomplished his great work, and so the completion of the Temple of Babylon was brought about

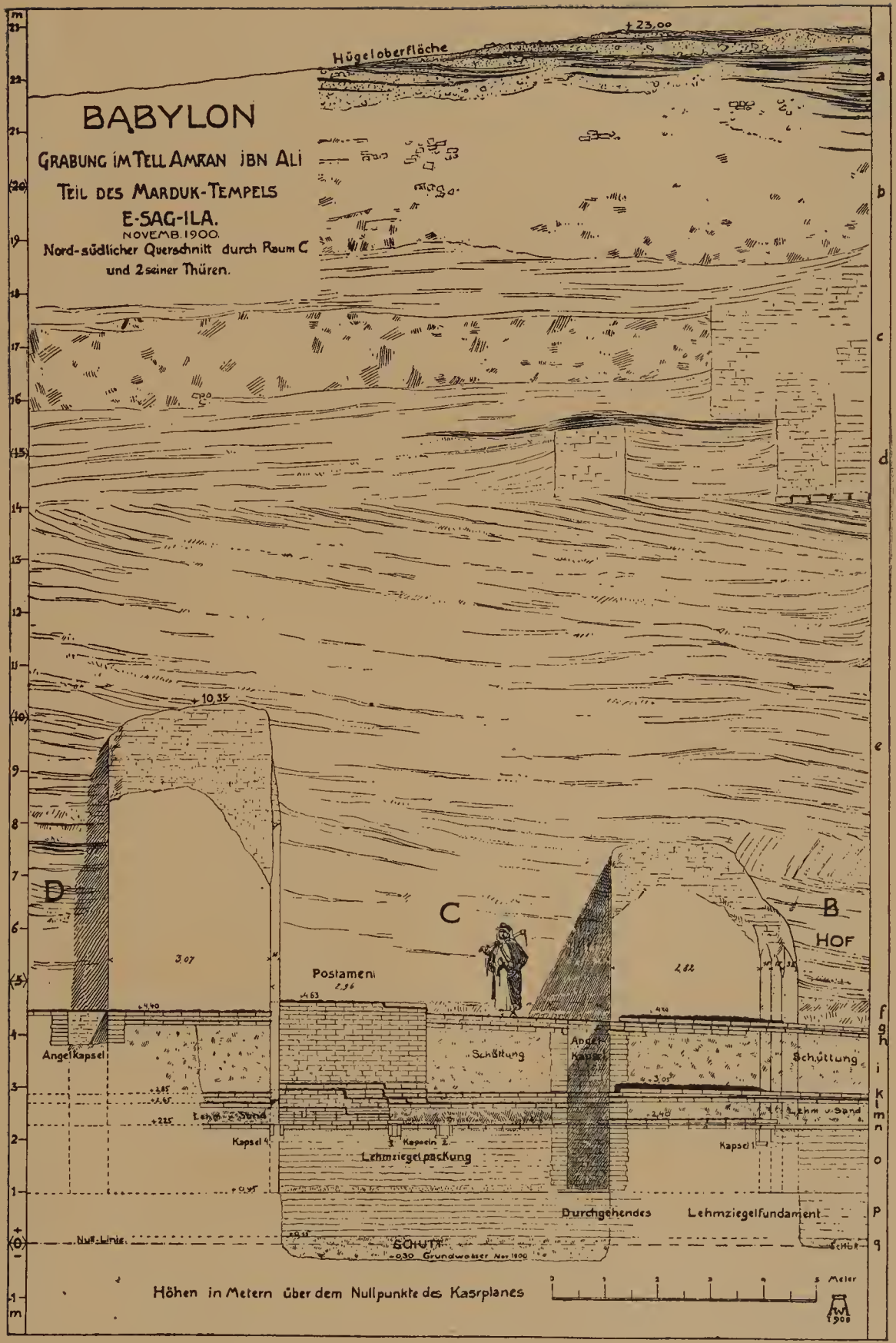
FIGURE OF A KING, IN RELIEF, FOUND IN AMRAN-IBN-ALI, BABYLON



EXCAVATIONS IN TELL AMRAN-IBN-ALI, FROM ABOVE




GROUND PLAN OF AMRAN-IBN-ALI




EXCAVATIONS IN TELL AMRAN-IBN-ALI, SHOWING PART OF THE TEMPLE OF MARDUK, ESAGILA, AND GIVING AN IDEA OF THE DEPTH OF THE SUPERPOSED DEBRIS

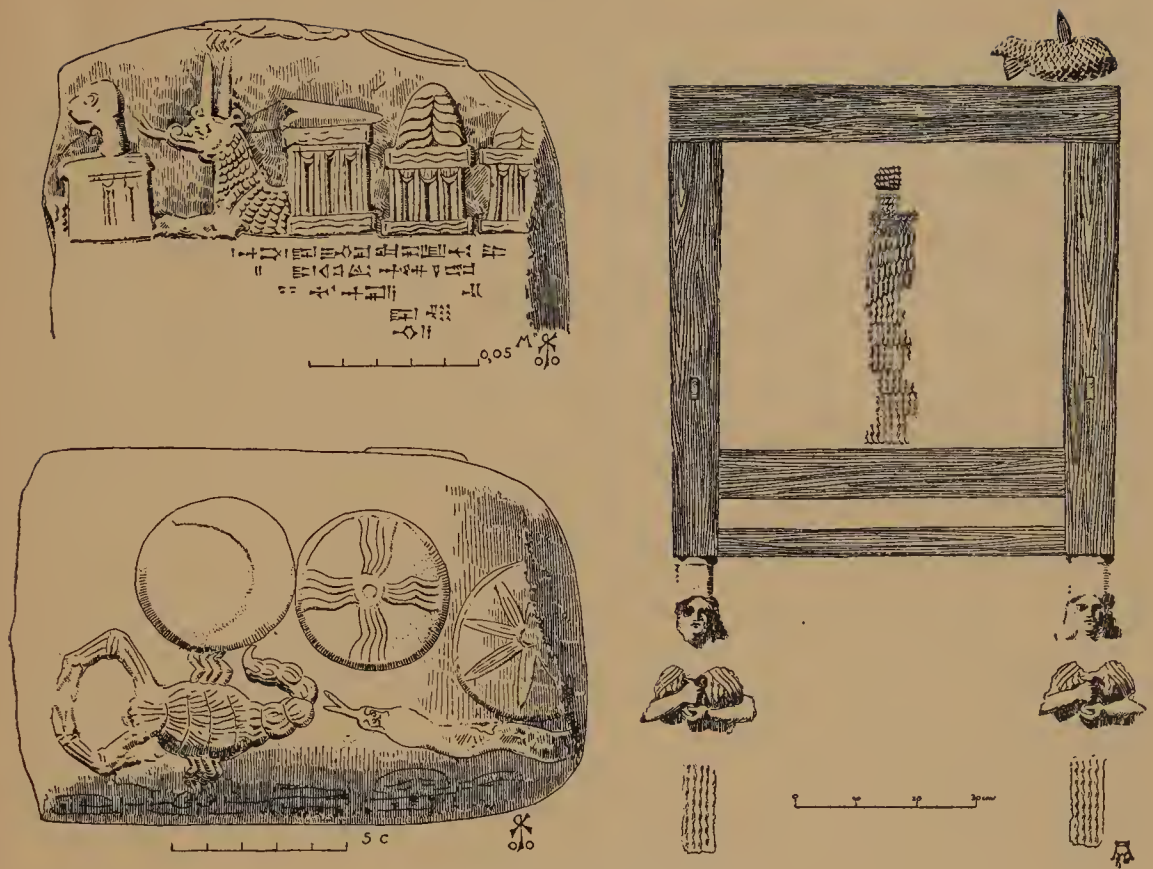
under the reign of his son, Assurbanipal and his twin brother, Shamasch-Shum-ukin. Marduk, the god, had been absent for 21 years. After Assurbanipal had finished the roof of beams of cedar and cypress, and doors of costly woods had been fastened to the gates and all richly furnished, Esagila, covered it with gold, silver, and precious stones. Marduk's sanctuary was like a glowing firmament and Assurbanipal surrendered the sovereignty to Marduk, the "god of all" and embraced his godhead and prayed with fervor. "Be merciful Oh! Marduk on Babylon which in thine anger thou hast once destroyed, and be merciful also to Esakkil thy palace. Let the light of thy countenance shine on us, for long hast thou dwelt a stranger among strangers, far away from thy kin. Welcome us back to thy Babylon and beckon us to thy Temple, Esagila, the Temple of Heaven and Earth." What a time there was in that return! Shamasch-Shum-ukin, the king's brother, seized Marduk's hand and led the procession with priests and choristers bearing flaming torches. The godhead was bathed in glory and charmed with the music. Large and splendid was the v of these sacrifices, and the light of the kindled torches spread a sun-like brightness for miles around. Of all Babylonian lands the godhead, arrayed for this splendid procession, and the Queen of Agne and Nana, the goddess, by appointment, waited on the shores for the coming of the king of the gods, the great lord of the lords. The god Nergal came with great rejoicing from Kuta to Babylon; Nebo, Marduk's victorious son, came direct from Borsippa, indeed the very god of the Sun himself hastened from Sippar exclaiming: "Yield thy splendor, Oh Babylon!" The god Ea, the father of Marduk, awaited the arrival of his son in the enchanted woods near his azure glittering shrine, *E-Kar-zagina.* Amid the joyful welcome of the gods and goddesses Marduk arrived while Assurbanipal offered sacrifices of cattle and sheep with his own hand and caused an overflow of the ocean from the hills to the dales to express the fullness of his intentions.

But still greater splendor was in store for Esagila under the Chaldean Kings, Nabopolassar and his son Nebuchadrezzar.

All the Babylonian Temples were built in tier-like towers. Esagila's tower, the tower of Babel, as it is called, was designated in the old language as *E-temen-an-ki,* which means the House of the Foundations of Heaven and Earth. Sanherib also had this one destroyed. Esarhaddon said he had plans for the foundation and tower, but nothing ever came of his projected reconstruction of the Temple. Assurbanipal and Shamasch-Shum-ukin never made mention of the tower or temple. But with Nabopolassar begins the rebuilding of Etemenanki, the foundations of which he laid, according to legend, deep in the heart of the lower earth. While the point of this tower should challenge the limits of heaven.

By a mighty army of workers he brought bricks and stones without number and the vessels that carried the asphalt on the canal Arachtu were so many and heavily loaded that it looked as if the asphalt had rained from the heavens above. Expert architectural workers and masters entered upon the well measured plan for the building, consecrated by the hand of the priest for the laying of the corner stone. Not only gold, silver, rare stones and pearls entered into the foundation, but also a portrait and likeness of his Royal Majesty made out of deeds by the head of a league of workers, and then commenced working.

Unto his god, Marduk, the King humbled himself and so the powerful tower rose like a mountain amidst shouts of joy and rejoicing, a pleasure to Marduk, but in particular to Nebuchadrezzar, who was next to Esarhaddon,



FIGURES FROM AMRAN-IBN-ALI

EXCAVATING THE TEMPLE PYRAMID, BABYLON

the energetic defender of Babylon and Esagila. The Babylon which we excavate would indicate that it was the same Babylon under Nebuchadrezzar, with its palaces, walls, temples and streets, and at the same time Marduk had a true, brave and voluntary worshipper in his son Nabopolassar, and gave Esagila his never tiring patronage.

After an old established custom Esagila was the house, the palace of the gods and of other godheads besides Marduk and Zarpanit for instance, it was the dwelling place of the god Ranman-Adad [See *Mittheilung,* No. 5, S. 12 f.], of the god Ea and other gods, but the chief of all was Bel-Marduk, who carried the holy name of *E-kua,* and Zarpanit, the Queen of the Esagila, and their temple-chamber *ka-chilisir,* that is "Pforte" (Portal Splendor). And so their son, Nebo, Esagila's tablet writer, also dwelt in Borsippa as well as in the temple in the sanctuary named (*Ka*)*e-zida,* the Eternal House. This sanctuary completed the trinity of the Babylon Pantheon.

Nebuchadrezzar brought to the Temple of Esagila innumerable gifts of jewels and precious stones, and presents of every kind, and immeasurable were the gifts of natural curiosities, as well as wines and viands, his intended gifts for the priests of the temple. Nebuchadrezzar built the walls of Ekua of pure gold, and they shone like the light of the Sun. He brought the choicest cedars from Lebanon, had them covered with gold and finished with jewels to make a roof for this beautiful chamber; also the walls of the chambers of Zarpanit and Nebo he clothed with gold and jewels, and all the vases and vessels of sacrifice of the Temple he had made of pure gold. But around the tower of Etemenanki, Nebuchadrezzar thought it necessary to have a new terrace as a foundation, so he assembled the kings and peoples from the farthest parts of his kingdom, bringing them from the remotest islands, with the idea that all nations and tongues must help in building the "Tower of Babel" until the great work was completed, and the tower of blue bricks should rise above all other towers into the very ether of Heaven.

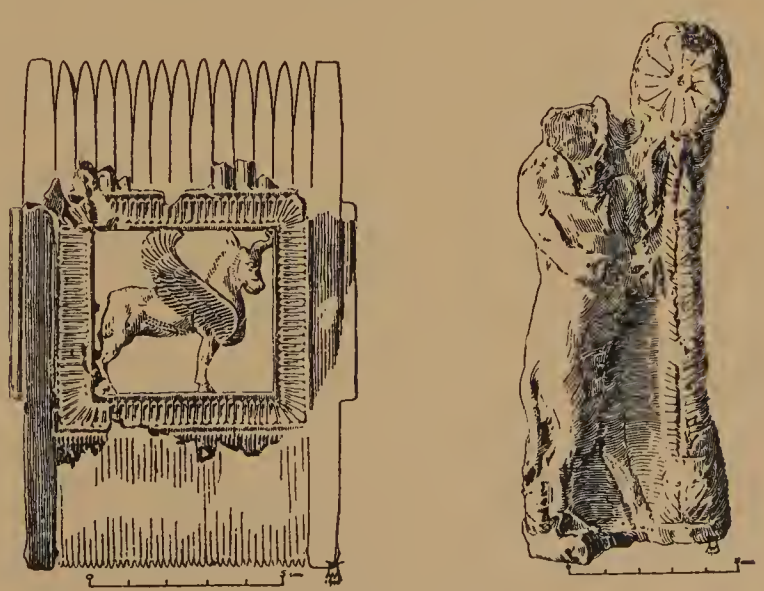
Neriglissar, successor to Nebuchadrezzar, built 4 gates to the Temple of Esagila, the Gate of the East, the Gate of the Ox-god, the Gate of Plenty, and the Gate of Glory, and over the entrance of the Gate of Glory he set 2 gigantic bronze snakes to overawe evil comers. As Babylon fell in the year 538 B. C., under the Persian King, Nabunaid, the forts of the City were delivered by a traitor and opened to the armies of Gobryas, the general of the host besieging the City, but he had to come to a stand before the doors of the Temple of Esagila, as neither spear nor weapon of any kind during this month of October should strike the holiest of the holy. And on the 27 of that month, October, Cyrus, the king himself, entered the City and promised to save it and especially the Temple, and daily he bethought himself of Marduk, to do homage before him, and he told his priests that he had taken the City without spear or weapon of any kind by the grace of Bel-Marduk.

But a new catastrophe broke over the Temple under Xerxes. Upon his return from Greece, as told by Arrian, Xerxes destroyed the temple of Belus, for in his opinion it was monstrous and badly placed in the centre of the City, and from that we may believe that he had no intention of destroying the ancient cult of the god Marduk, and so we find as far as Artaxerxes I., the same worship, but yet the coming of Xerxes proved the death knell of the ancient cult, of which we have proof by Strabo and Arrian. Alexander the Great, in order to rebuild the Temple of Bel, collected a large army to remove the ruins and it curdles the blood to think that there were human victims sacrificed in the destruction of the Temple archives of Esagila. And still we trust and hope

that Berossos, the priest and historian of the Temple of Bel, in the time of the successor to Alexander the Great, in the year 270 and Antiochus I., and Soter in his great historical work, (*Babyloniaca*) wrote the aforesaid with the aid of the ancient archives, which were saved with great care in Babylon.

And so also Antiochus I., the son of the king, Silukku, of the Macedonians and King of Babylon, called himself the very protector of Esagila and Ezida, and it is very evident that the hymns and prayers to Bel and Istar which were written by priests in Babylon between the years 137 and 81 B. C., came from the Temple Esagila, but of course with the coming of Xerxes, Esagila's glory was at an end, and from the beginning of the Christian Era it was lost and covered by its ruins, which we are now trying to remove and to save and regain the tablets and works of art, which after the storms of the time, by a friendly fortune, we may still be able to recover much. These Babylonian discoveries of archives and monuments are not only of interest to antiquarians, but it gives us the key to our own mental and religious being.

It is still believed that Nebuchadrezzar, outside of the palace under the Kasr, and a new palace with the hanging gardens, had built a third one in the northern part of the City, toward Sippar, inside the fortifications. The remains of this third palace must still be in existence since the British as well as the Berlin Museum have great clay cylinders which very likely were taken from this Temple. This Chaldean king gave this last temple a name full of meaning regarding to himself; he called it *Nabu-kudurri-usur liblut lulabbir zanin Esagila,* which means in our language, may Nebuchadrezzar live and may he live long as the protector of Esagila, because it was the height of his ambition to be called that. It is the glorious task of our day to lift Babylon and Esagila out of its ruins and obscurity. Germany, the German Oriental Society has undertaken this great task and it will always be a glorious memorial to the children of the Fatherland and to the scientific workers of this great people that there has again arisen a new protector of Babylon and Esagila, in his great Imperial Majesty, the German Kaiser; and our hearts are gladdened with the feeling of thanksgiving toward him that will lift Babylon from the ruins as once did Nebuchadrezzar, and to our eyes and mind comes the inscription upon the vases "Long life and glory to him, the Protector of Esagila."



FIGURES FROM AMRAN-IBN-ALI

# THE PAST IS IN THE PRESENT

BY PROF. OTIS T. MASON

THE PAST of human activity is to be seen in the present in 4 forms:— decaying, vestigial, surviving and vitalizing. These 4 appearances of the past in the present have been a thousand times noted, and if one is here made prominent it is for the purpose of emphasis. They are all deeply involved in the question of origins, the most persistent in our day. Again, the day is past for closing central issues on meagre evidence.

One may, if so inclined, weep over the ruins of the past, and sigh "lost is lost, and gone is gone forever." Or he, taking in the splendor of what to him seems the noonday of culture, may be struck chiefly with its evanescence, having Tennyson's verse in mind:—

> And men, through novel spheres of thought
> Still moving after truths long sought,
> Will learn new things when I am not.

It would be the duty of such an one to scrutinize closely the evidence of similarities in culture. He need to be trained in logic, for it is much needed.

The vestigial past in the present is also a reality, and reminds one of the innumerable continuances of fading out and no longer useful parts, as the muscles in the ear or the dewclaws of dogs. There are also vestigial customs and fashions in every phase of thought and activity, "and e'en devotion." In England you will see passenger cars shaped like several coaches together, and in our own country the statute books are already full of dead laws.

The study of survivals finds its inquiries organized in the science of Folk-Lore. The most enlightened persons cannot escape the old-fashioned. Many of them affect the love of it in their daily lives, and the pendulum of progress swings back to the "good old times." Suddenly the enforced application of coal and other fuels drives commerce to return to the sailing vessel, and the six-masted schooner is becoming a common sight in every harbor. There survive also the folk in city and country, among whom the scholar is happy to find speech, and industry, fine art and society, philosophy and worship all filled with the past. Those who have not read Arthur Mitchell's *Past in the Present* have a rich treat before them in observing the cabin, the swinging crane, and a hundred other simple ways joined with the most delicate refinement of the spirit.

Little will be said of these here, but they are recognized as existing and influential. We are dealing now with the present as the revealer and living exponent of the past. It is like the "House that Jack built"—all the story is in the last verse. If there be any lost arts, it is because they have been fused into later arts and could be assayed out if necessary. The history of the human species is one from first to last. The following guide will show us more particularly the demonstration of this thesis.

1. The ethnologist is interested in breeds or races of men. He says that there have been varieties of men from the remotest past, and these have differed among themselves in speech, arts, social structures and functions, and beliefs. Generally a glance at men of various races emphasizes their differences, as though separate sets of causes had preceded each. It is proper that these dissimilarities should be investigated from every possible point of view. But variety, as everyone knows, has its basis in unity. All are in all, and every living race has in it more of the common humanity than of separate characters. All mankind are in the men of the present. From first to last there is but one genealogy, one lineage, one kinship. The ethnic divisions of man, says Deniker, are not species but races, biologically sum totals of bodily characteristics, once to be met with in a real unison of individuals, now scattered in fragments of varying proportions among several ethnic groups, from which they can no longer be differentiated, except by a process of delicate analysis. Morphological characters, as well as color and other external marks, fail to be criteria in determining races. Not only are the same traits of physical type met with in several ethnic groups often widely separated, but in each of these groups are seen evidences of blending one or more somatological units. [Deniker.]

2. The historian, the man of the pen, who writes down what he observes or hears. His limitations of time and place are great; his personal equation and training give color and tone to his work, and the tribes whom he has visited, as well as the events he has chronicled, are but a handful to those that have no record. One of the earliest of them, noticing how the same earth in resources and forces abideth forever amidst changing details, says: "The thing that hath been, it is that which shall be; and that which is done, is that which shall be done; and there is no new thing under the Sun." This guide will take us to the halls of legislation, to courts in session, or into the presence of rulers. Each one has a vast library recording the things that have been done from the hoary past, and these are the precedents for the present and the future.

3. Our third guide would be the man of the spade, the archæologist. The first discovery he makes, endorsed by every discovery he makes, endorsed by every other, is that in all places and ages man has worked with tools and implements that fit his hands at one end and meet his wants with the other end. The exigencies of the environment give variety to these results, but this man of the spade is startled every day with likenesses concerning which no man will say whether they are independent inventions or the results of acculturation. Quite as confident as the naturalist, the archæologist, on finding a stone mortar in the ancient beds of Calaveras County, proceeds to tell you the color of the woman's hair that used it, to build her hut, to clothe her, to surround her with a variety of woven basketry for gathering, grinding, cooking and sewing acorns. The owner of the mortar finds her resurrection in the digger woman of the XX. Century.

4. The fourth guide, near of kin to the first named, is called paleographer. He might be called the archæologist of writings. It is his pleasure to reawaken the voices of peoples long vanished, to dcipher ancient records on stone, pottery, metals, and other imperishable materials. He traces the whole graphic method from rude etchings on the rocks to the printed and illustrated book, confident that among all races the chain of cause and effect has been unbroken.

5. The philologist cannot be dispensed with in this wide study. We

are told that languages were not invented but grew. It is the philologist's duty to explain this natural history of speech. Many a time he has found a shred of former migration clinging to a locality in the form of a place-name, when other hunters have lost the scent. In the foremost sciences a universal language is slowly growing up, not by the adoption of a mongrel Volapuk, but by means of ancient Greek roots, which trace their genealogy back to the limits of memory. The fundamental types of language are not exclusive. Agglutination, monosyllabism and inflection are all in the English language, alive and active, more apparent in speaking than in printing. The German is more noteworthy in these characteristics than our own tongue.

6. Since there never was a time or place in which human beings did not co-operate in the ends of life, the sociologist will be in constant demand for guidance. I use the word in its most comprehensive sense to include him who investigates the family, the government, the union, the institution. In our synthetic study it will be his task to show how the ends of co-operation have never changed. Names change, things remain. Every type of human sexual unions that ever existed may be found in the United States and the enlightened nations of Europe. Children often take the name of the mother, property may descend in the female line,and the clan feeling is far from dead. If there were time to trace the story, it would not be difficult to find Improved Orders of Red Men and societies named after Indian chiefs, whose by-laws are copied from tribal customs of the ancient Americans. Legislation by Senates and Lower Houses are millenniums old, courts of justice, with their tedious minutial, are quite as ancient. The law's delay and the insolence of office did not arise in Shakespeare's time. Travel and commerce are older than culture, and along with cars and ships for travel and freight, the porter, the sled, the cart and the raft, instead of being superseded are made many thousand times more active thereby.

7. In our day there has sprung up a science called Folk-Lore, which devotes itself to old-fashioned beliefs and practices. It has made the brilliant discovery that what is old-fashioned here is alive and dominant somewhere else, and regards, therefore, no custom, however trivial, beneath his notice. The student of human progress would not dream of leaving the Folk-Lorist from the roll of his councillors. He is the keeper of files. His musty papers are just at this moment inoperative. No one knows the hour when any of them may be revived. In eating and drinking, in dress and costume, in working and resting, it matters not how rich you are, unless the relics of former helpful things and fashions are on every hand. You are not of ancient stock if you do not possess them. They are imitated and counterfeited. One of them is "the pearl of great price," which a man will sell all he hath to possess.

8. One more to be invited in this company of explorers into the human story is the craftsman, be he artisan or artist, for all industry ends in fine art. It is along the lines of industrialism that the past obtrudes itself upon the gaze of the present, quite as much in living issues as in vestigial things and customs. The sea is measured still in fathoms, horses in hands, land by roods and acres, commodities by yards and pounds, monies by shillings and pence, and time by years, days and hours. The arguments and prayers of the whole scientific world have availed little. Legislation has also opened doors in vain. Metrics have changed little. Tools have changed their substance and speed, but the threshing machine is only a swift tribulum in steel; the planing mill, a number of adzes on a cylinder; the bullet, a piercing projectile set in motion like the arrow, its progenitor, by the release of an elastic

substance. The rifle actually resembles the arbalest in its manual portions. The list of these living and legitimate descendants is interminable. The dead past is a poetic dream—it died in order to have a more glorious resurrection. Commercial people and manufacturers know that it is dangerous to trifle with old-time prejudices. There is a story of a chemist who devised a perfect human food, containing the ingredients of the body in exact proportions; but he could find no one either in hovel or hospital to eat it, though it was offered gratuitously.

9. Finally, it must not be forgotten that all peoples have beliefs and practices relating to a spirit world. They are religious, their beliefs about this world are their creeds, their organizations and activities therein are their cults. The student of comparative religions observes that these forms and beliefs linger on through all the modifications of society. The fundamental doctrine of personeity has no limitation. With the present tribes and nations it is universal. So far back as the historian and the decipherer can take us it is the same. The archæologist has rarely found the skeleton of prehistoric man or woman that was not accompanied with indubitable evidence of this creed.

In closing, I beg leave to say that this awful conservatism is not always for the best. Within necessary limits the progress of humanity is and has been out of naturism into greater and greater artificialism. The order has gone forth, it is written in the very frame of man to be artificial, to have the work of the hands, of the brain, and especially of the intellectual, moral and spiritual life renewed day by day. Progress, after all, has not been a haphazard throwing away and choosing, but something as orderly as the stellar or the physical world. The many experiments whose skeletons line the trails of time are evidences of disharmony. Their projectors were not in touch with the law of advancement. Walk about the most refined home, travel on the special train or in the sumptuous steamer and you will observe in each of these an epitome of human history. The same wants for defense, food, clothing, rest, getting about are there. The domination of Nature's forces to do the work of human hands is going on. They kindle fire by friction; tools have weight, edges, points, serrations, and produce the same results as ever. The races have names for things and speak in propositions. They love beauty in form and color and motion; are ravished with sounds and odors, and enjoy the pleasures of dainty food. They marry and are given in marriage, work in unison to one common end. They love and hate alike, and fight by striking, piercing and cutting. The fist, the club, the battering ram, and the cannon ball are blood kindred. Krag-Jorgensons are the same in effect as bows and arbalests; each is set into action by a pent-up force; the sword has not improved since the Bronze Age, and those were not more murderous than the obsidian bladed tecpatl (?). Belief in personality is a common trait of humanity ever more and more refined.

SCULPTURED HORN-HEAD OF JUPITER AMMON

ROCK-CUT TOMBS AT MERJABA

# ANTIQUITIES IN MT. LEBANON, SYRIA

BY MRS. GHOSN EL HOWIE

THE ARCHÆOLOGICAL history of Schweir (our headquarters) is yet to be written. The modern town, consisting of about 700 houses, is built of stone, and possibly is not more than 2 or 3 centuries old; it is built under the cliffs and on the eastern side of the western flank of Mt. Lebanon.

The probabilities, however, are that it covers a much more ancient site, for, when making a carriage road through it 4 years ago, we picked up ancient blue-glazed pottery, such as we found in a rubbish heap in Damascus, which we know belonged to the Roman period. Moreover, within the memory of those living, there existed remains of an ancient building, in what is now called Il Baidar (the threshing floor) on the confines of the village, where was also found a red earthenware image, which the children of the finder unfortunately quarreled over and broke. Toward the top of the village are still to be seen 2 rock-hewn tombs, and overlooking the village, at a height of 5,000 feet above the sea, is a hill known as "Il Bucj" (The Tower), on which the well-squared stones of some ancient building have been built into the coarse stone walls of the vineyards on its slopes. Roman coins have been found and fragments of Roman pottery still strew the ground, and last but not least was the finding of 2 bronze images, one a diminutive well-shaped bull, of which 2 of the hoofs were broken, and the other a composite figure with the head of a man and horns and ears of a bull. The lower part consists of the paw of a lion, and on the trunk (between the paw and the head) I think is the figure of a scorpion; from the shoulders spring the extended wings of a bird, the left one of which, however, is broken off.

A friend, to whom I showed them in Beyrout, told me that the composite figure belongs to the Greco-Roman period, and probably was one of 3 feet supporting a bowl, brazier or other utensil. The scorpion, he told me, figures on several medals of the Roman period, and referred me to *Babelon, traite des Monnaies Greques et Romaines,* 1901; Iere partie, I., pp. 684, 685, 689.

The tête cornue (horned head) is that of a Jupiter Ammon (Jupiter bone, goat).

In that case I am wrong in supposing the horns and ears to be those of a bull, but anyone comparing the horned head of the composite figure with that of the little bull will see that the horns are of the same shape in both; this can also be seen in the photograph which I made of them. "The little bull may belong to the Hellenistic Period"

The whole neighborhood seems to be rich in archæological remains. With an archæologist, I made an excursion into the environs. After an hour's ride we came to M'Ruj (the meadows), where several fine old oak trees in front of the church seem to indicate the remains of a high-place grove. This Maronite shrine is dedicated to Mar Theckla, and on her feast day visitors to the sacred locality disport themselves under the trees as they doubtless did in olden times. The people are very ignorant, and do not seem to know any-

thing about their saint. One woman said that she was "Jehudie," a Jewess.

M. Najib told me that the story commonly current is that Mar Theckla was a Jewess, who, on being converted to Christianity, was persecuted for her faith. She fled to Malula (near Damascus), surrounded herself with wild animals, which she tamed. On soldiers being sent to capture her, she cleft the rock in twain and disappeared within it. When the soldiers kindled fires at the entrance, the rain put them out. The picture of the saint in Mar Theckla M'Ruj represents her standing in an arena with lions crouching at her feet.

There are no "meadows" now at M'Ruj, but the level space where they doubtless formerly were is covered with vineyards, and people were busily engaged in gathering the grapes as we passed. I was told the other day that Druses formerly lived in M'Ruj, and that they had conducted the waters of a certain spring (Kolaire) to their meadows. The Druse of M'Tein (a neighboring village) enviously destroyed the aqueduct and took the water to their own village "for the garden of the prince." The Druse of M'Ruj arose one night and laid the garden waste. The prince concealed his anger for a time, but when the incident seemed forgotten he invited the Druses of M'Ruj to a feast and placed one of his own men behind each guest with the secret understanding that when the guests raised their goblets, at a given sign the servants of the prince should fall upon them. The plan succeeded, and the destroyers of the princely garden were thus wiped out of existence.

A little below the village of M'Ruj is another village, Merjaba, Merj being the singular of M'Ruj means "meadow," and possibly Merjaba is the meadow of Aba.

On leaving M'Ruj we descended to this village, and as everyone was either engaged in gathering grapes or working at the wine-press, we decided to spend some time at the press talking to the people. Our inquiries as to the antiquities of the place led to the information that there were many. In working the land, they said, they came across "pavements," "lintels," "inscribed stones," "sculptured stones," "earthenware and metal figures," "coins," etc. Of course we longed to see some of them, but the stones had either been "broken up" or "buried," the coins, etc., "thrown away." "Shu badna fi hum" (What do we want with them?) said one old woman. However, the people now have a notion that such things have value, especially since 2 men found gold pieces, one of which was sold for 70 piasters and the other for $3.50, and a woman told us that her son had collected a bag of coins and taken them to America. We were shown 2 coins very much corroded, one of which seemed to me to represent 3 columns (possibly the facade of a temple), but the woman would not part with it.

We noticed in the modern dwellings several large stones which we recognized as having belonged to some ancient building, and a rock-hewn sepulchre was pointed out to us in the village itself. A little below the village are a great number of huge limestone boulders. This Kalaa (hold) is not peculiar to Merjaba. Many districts in Mt. Lebanon are covered with this peculiar formation for miles. The boulders are of the most fantastic shapes, but many of them resemble huge natural monuments, and what I long suspected is now positively proved, *viz.*, that many of the boulders have been used as tombs. This is very clearly demonstrated in the Kalaa of Merjaba, where we visited 4 (my companion knew of 6) and the proprietor of the spot told us there were several more, but we had not time to make further explorations.

Two of the boulders had been hollowed out and made like vaulted chambers, about 6 by 5 feet, with places for two bodies on the ground floor; these were entered from the side, and evidently had had doors; the reveals and sockets were well cut. Other graves were cut in the surface of the rock and had been closed by huge stone lids, some flat, others converse, etc.

No doubt an examination of these tombs by experts would cast a flood of light on the history of Merjaba, and possibly prove it to be the site of some important Phœnician town, for Captain Wilson tells us that "rock-hewn tombs (such as these) are the earliest in date. * * * The simplest is when a grave-shaped loculus has been sunk in the rock and a reveal cut around its mouth to receive a covering slab, which in some cases is flush with the surface of the rock and in others raised above it." [*Our Work in Palestine*, p. 180.] Two of the inhabitants told us that when Mughraby (sorceress) visit them they say, "Don't you know you are living on heaps of treasure? the proper name of this place is 'Māl-Jeba' (the riches of Jeba.") A Mughraby told a man that on one of the rocks there is a sword which indicates where treasure is hid. He said he had looked for it, but in vain.

We were told of many things that had been found, for instance, "a bracelet" in a tomb. An earthenware cruse on the head of a skeleton and an earthenware vessel containing "Tibr." Tibr is dust-like ashes which the people believe has the property, when applied, of converting heated iron into gold. The vessel in question was made of the thick pottery common in ancient times, and was probably a funerary iron.

Not far from Merjaba are the remains of another ancient town called Suborta (possibly a corruption of Sparta) which may have had a Greek population in the distant past. The people of Merjaba (pointing to Suborta) said that it had been a very large place. "Ma arzam minha fi-il belād" (There was not a larger in the country). Of course this is exaggeration, but doubtless their fathers and grandfathers destroyed the stones which composed the ruins and turned the place into vineyards. There is no habitable house on the spot, but foundations of ancient buildings and large stones, some *in situ* and others built into terrace walls, as well as column drums lying about, and rock-cut tombs, are indications of the ancient site.

Above Suborta, on the north side, on a hill, is a fountain—now known as Ain-el Kabu (the fountain of the vault), the arch of which is composed of stone, inscribed in large Greek letters, which are much eroded, and in which the name Suborta appears. These have no doubt been carried up from the old abandoned fountain for the convenience of the modern hamlet on the hill.

The name Suborta occurs on an Assyrian tablet, where it is said that the Assyrians conquered a Suborta tribe in Mt. Lebanon. The ravine between Ain-el Kabu and Suborta bears the significant name of Wady il Yemaijira (the valley of skulls), and local tradition still points to some great catastrophe which took place here in the remote past.

On returning home we passed through two places containing ancient remains, one, Shamseen, no doubt takes its name from the temple, which here must have been dedicated to Il Shams, the Sun-God. Here we found an old mill-stone and olive vat and the remains of a house. The second place, B'Siffereen, is also an ancient site, in which are rock-cut tombs and a fountain. The B', like so many names in this part of the country, is evidently an abbreviation of bit or beit (house), and B'Siffereen, I think, means "The House of the Book." The name will recall at once the two cities of the

Euphrates, the Sippara (or Siffera) books, and is very suggestive; and since we know that the ancient temples were the repositories of important sacred books [II. Kings, 22, 8], what is more likely than that some well-known highly treasured sacred record was preserved in the temple of this place?

It may be interesting to archæologists to make a note of the name of this ancient site, for we cannot but believe that there are great things in store for those who will in the future study the "ancient things," or, rather, "ancient words" [I. Chron., iv., 22], and it may be that some of the records available to the chronicler, but unknown to us and lost to history, may be found in places which can only silently indicate their treasures by their significant names.

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## DISCOVERY OF GREEK MANUSCRIPTS IN EGYPT

AT the meeting of the Egypt Exploration Fund in London a few days ago, Dr. Greenfell, who has been associated with Dr. Hunt since 1894, in the search for Greek and Latin manuscripts in Egypt, made a very interesting report of their recent discoveries.

The City of Alexandria, at the dawn of the Christian Era, was one of the great centers of Greek philosophy. Christianity soon found its way into Egypt, and by the close of the I Century had won many converts. S. Mark is thought to have founded a church here. The two Christian Fathers, Clement and Origin, were born in Alexandria. It was but natural that the doctrines of Christianity should be discussed at Alexandria by the Greek philosophers, and that their opposition should be combatted by the ablest defenders of the new faith, and such was the case. The discussion at Alexandria and elsewhere in Egypt only seemed to make new converts, and by the close of the III Century it had practically driven Paganism as far up the Nile as Philæ, its last home in that historic land.

The remarkable discoveries by Drs. Greenfell and Hunt of fragments of manuscripts containing sayings of Christ prove how highly the early Christians in Egypt valued the message brought to them from their brethren in Palestine. It is but natural that they should be committed to writing and circulated among the newly-made converts. In England when Wickliffe made his translation of the Bible into English, many made great sacrifices to purchase copies of familiar sayings of our Lord, and so it must have been in Egypt.

It is the discovery of these fragments by these distinguished explorers that has thrown a great deal of light on the condition of Christianity in Egypt during the first 4 centuries, and also on the classic literature of Greece and Rome.

The most important discoveries have been made in mounds on the borders of the Libyian desert about 120 miles south from Cairo, and 8 miles west from Beni-Mazar on the Nile. The mounds cover an area about 1¼ miles long by ½ mile wide. Here is located the squalid hamlet of Behnesa, on the site of the ancient capital City of Oxyrhynchus.

They began work here in the Mounds, which do not exceed 35 feet in height, with some 70 men and boys. In the course of their excavations Dr. Hunt found a crumpled papyrus on which he detected the Greek word for "mote,"

which lead to the identification of the sayings of Jesus. The *fac simile* of both sides of this unique papyrus, with Greek text, we reproduce. Another fragment contained most of the first chapter of S. Matthew's Gospel. From this time the excavations have been carried on with great success. Over 100,000 fragments have been discovered ranging from 10 lines to several columns in length. They cover the whole field of Greek literature; epic, lyric, tragic, and common poetry, philosophy, history, treatises on law and medicine, grammar, geography, and mathematics, trade discussion, civil and military life, customs, etc., and range in quality from an imperial edict to the private memoranda of the peasant. A large number of medieval Arabic documents have been recovered. The manuscripts date from the I century onward. The recent discoveries were made at the Potlemaic Necropolis at El-Hibeh. They consist of a collection of sayings of Jesus, and are all introduced with the words, "Jesus saith." Apparently the sayings were addressed to St. Thomas. It is our intention to publish *fac similes* and translations of some of the more important manuscripts discovered.

## SAYINGS OF OUR LORD, GREEK TEXT

*Verso.*

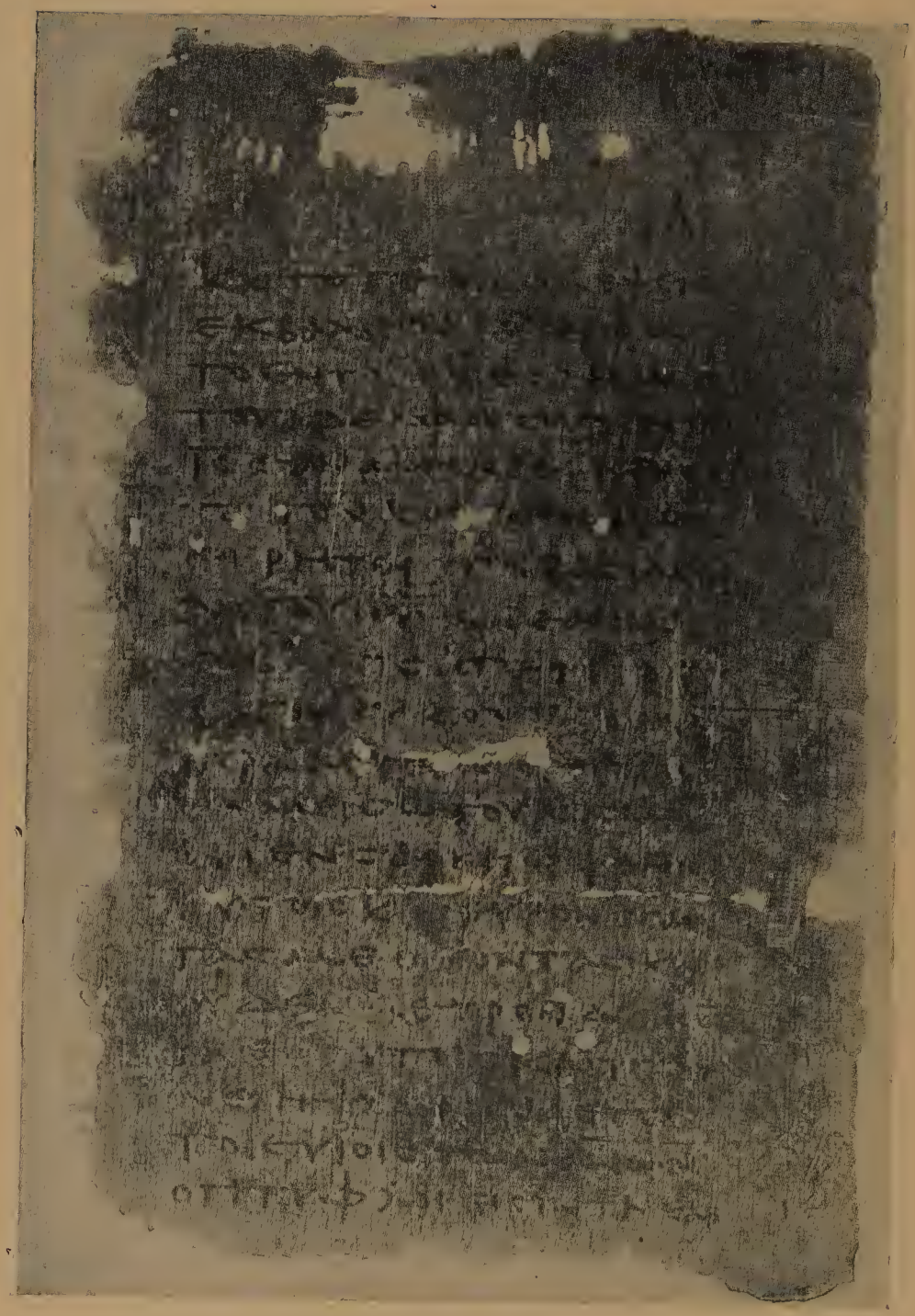
ΙΔ
ΚΑΙ ΤΟΤΕ ΔΙΑΒΛΕΨΕΙC
ΕΚΒΑΛΕΙΝ ΤΟ ΚΑΡΦΟC
ΤΟ ΕΝ ΤΩ ΟΦΘΑΛΜΩ 7
ΤΟΥ ΑΔΕΛΦΟΥ COY ΛΕΓΕΙ
5 ΙC ΕΑΝ ΜΗ ΝΗCΤΕΥCΗ
ΤΑΙ ΤΟΝ ΚΟCΜΟΝ ΟΥ ΜΗ
ΕΥΡΗΤΑΙ ΤΗΝ ΒΑCΙΛΕΙ
ΑΝ ΤΟΥ ΘΥ ΚΑΙ ΕΑΝ ΜΗ
CΑΒΒΑΤΙCΗΤΕ ΤΟ CΑΒ 7
10 ΒΑΤΟΝ ΟΥΚ ΟΨΕCΘΕ ΤΟ
ΠΡΑ ΛΕΓΕΙ ΙC Ε[C]ΤΗΝ
ΕΝ ΜΕCΩ ΤΟΥ ΚΟCΜΟΥ
ΚΑΙ ΕΝ CΑΡΚΕΙ ΩΦΘΗΝ
ΑΥΤΟΙC ΚΑΙ ΕΥΡΟΝ ΠΑΝ
15 ΤΑC ΜΕΘΥΟΝΤΑC ΚΑΙ
ΟΥΔΕΝΑ ΕΥΡΟΝ ΔΕΙΨΩ
ΤΑ ΕΝ ΑΥΤΟΙC ΚΑΙ ΠΟ 7
ΝΕΙ Η ΨΥΧΗ ΜΟΥ ΕΠΙ 7
ΤΟΙC ΥΙΟΙC ΤΩΝ ΑΝΩΝ
20 ΟΤΙ ΤΥΦΛΟΙ ΕΙCΙΝ ΤΗ ΚΑΡ
ΔΙΑ ΑΥΤΩ[Ν] ΚΑΙ . . ΒΛΕΙC
. . . . . .

VERSO.

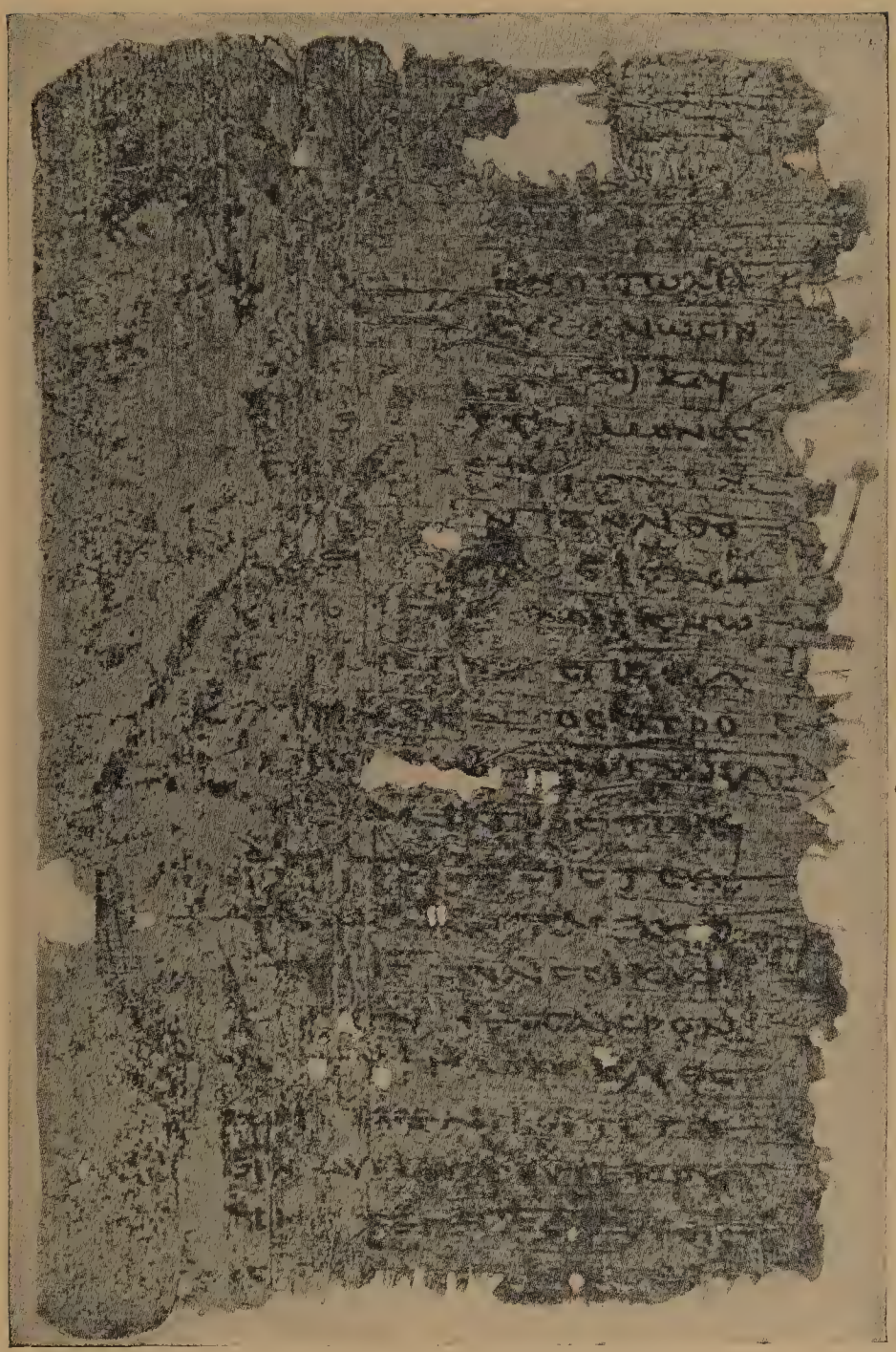
*Recto.*

[. . . .] . . [. Τ]ΗΝ ΠΤΩΧΗΝ
[ΛΕΓ]ΕΙ [ΙC ΟΠ]ΟΥ ΕΑΝ ΩCΙΝ
[. . . .]Ε[. . .] . . ΘΕΟΙ ΚΑΙ
25 [. .]C . Ε[. .] ΕCΤΙΝ ΜΟΝΟC
[. .]Τ ΩΙ ΕΓΩ ΕΙΜΙ ΜΕΤ ΑΥ
Τ[ΟΥ] ΕΓΕΙ[Ρ]ΟΝ ΤΟΝ ΛΙΘΟ
ΚΑΚΕΙ ΕΥΡΗCΕΙC ΜΕ
CΧΙCΟΝ ΤΟ ΞΥΛΟΝ ΚΑΓΩ
30 ΕΚΕΙ ΕΙΜΙ ΛΕΓΕΙ ΙC ΟΥ
Κ ΕCΤΙΝ ΔΕΚΤΟC ΠΡΟ
ΦΗΤΗC ΕΝ ΤΗ ΠΡΙΔΙ ΑΥ
Τ[Ο]Υ ΟΥΔΕ ΙΑΤΡΟC ΠΟΙΕΙ
ΘΕΡΑΠΕΙΑC ΕΙC ΤΟΥC
35 ΓΕΙΝΩCΚΟΝΤΑC ΑΥΤΟ
ΛΕΓΕΙ ΙC ΠΟΛΙC ΟΙΚΟΔΟ
ΜΗΜΕΝΗ ΕΠ ΑΚΡΟΝ
[Ο]ΡΟΥC ΥΨΗΛΟΥC ΚΑΙ ΕC
ΤΗΡΙΓΜΕΝΗ ΟΥΤΕ ΠΕ
40 [C]ΕΙΝ ΔΥΝΑΤΑΙ ΟΥΤΕ ΚΡΥ
[Β]ΗΝΑΙ ΛΕΓΕΙ ΙC ΑΚΟΥΕΙC
[.]ΙCΤΟ . . ΤΙΟΝ COY ΤΟ
. . . . . .

RECTO.



SAYINGS OF OUR LORD, OBVERSE.



SAYINGS OF OUR LORD, REVERSE.

## THE TRANSLATION

Logion 1, lines 1-4.

. . . and then shalt thou see clearly to cast out the mote that is in thy brother's eye.

Logion 2, lines 4-11.

Jesus saith, Except ye fast to the world, ye shall in no wise find the kingdom of God; and except ye keep the sabbath, ye shall not see the Father.

Logion 3, lines 11-21

Jesus saith, I stood in the midst of the world, and in the flesh was I seen of them, and I found all men drunken, and none found I athirst among them, and my soul grieveth over the sons of men, because they are blind in their hearts. . . .

Logion 4, line 22.

Traces of two letters are discernible in the middle of the line, but, though excluding certain combinations, they are too scanty to afford a positive clue.

As it is uncertain how much has been lost after line 21, line 22 may contain the end of the preceding saying; but more probably it forms part of a distinct one.

Logion 5, lines 23-30.

Jesus saith, Wherever there are . . . and there is one . . . alone I am with him. Raise the stone, and there thou shalt find me; cleave the wood, and there am I.

Logion 6, lines 30-35.

Jesus saith, A prophet is not acceptable in his own country, neither doth a physician work cures upon them that know him.

Logion 7, lines 36-41.

Jesus saith, A city built upon the top of a high hill, and stablished, can neither fall nor be hid.

Logion 8, lines 41-42.

As at the bottom of col. 1, the traces of letters in the middle of line 42 are very faint.

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## THE CHARIOT OF THOTMES IV*

BY G. BERTRAND

ANCIENT Egypt, whose civilization seems for a long time to have been pushed back earlier than the date assigned to the country by Biblical writers, is revealing every day some new secret or new fragment of its history; but its study, created by the French and remaining for a long time their apanage, has passed into other hands; today it is an American Archæologist, Mr. Davies, who has lifted a part of the curtain from this background.

Mr. Davies who has distinguished himself for several years by his Egyptological work has discovered the tomb of the king of the XVIII Dynasty, Thotmes IV.

*Translated for RECORDS OF THE PAST from *Science Illustree*, Paris.

This tomb contained among other interesting objects a chariot in which, according to tradition, the king returned to Thebes, in this noted city where our compatriot Prisse d' Avenes made such interesting discoveries concerning Thotmes III.

To tell the truth Mr. Davies was not present when the chariot was exhumed and the honor of this good archæological fortune came to Mr. Howard Carter, an officer attached to the Egyptian Government. Like the other royal tombs of this region, this tomb of Thotmes IV is a gallery cut into the very heart of the mountain, which after having been inclined towards the center—for a considerable distance—is abruptly interrupted in order to make room for a deeply excavated, square pit, the walls of which are much extended and covered with paintings; next the passageway ascends from the other side of the pit, to terminate definitely in a large chamber at the bottom of which is a remarkable sarcophagus cut out of granite and covered with fictitious texts from the famous *Book of the Dead.*

Another curious discovery which Mr. Carter made was in the very small room which is situated on the other side and the floor of which glistens with horns of oxen, feet of sheep, and ducks and geese mixed in, the whole mummified. These were certainly the offerings made to the shades of the deceased king. There were also traces of seals in the clay bearing the name of Thotmes IV. and also attached to the doors of the chamber, which established in an irrefutable manner, the fact that the Egyptians of this time not only made use of seals, but also knew, to a certain degree, the art of printing, for all these characters, at least those parts of the seal in relief, had been coated with a sort of blue ink in order to make a reproduction in color on the clay.

Those of our lecturers who are cognizant of the work in Egypt are not ignorant of the fact that the body of Thotmes IV was found at Cario after having been exhumed from the tomb of Amenotep II where he had been buried by the priests of the XXII Dynasty. So Mr. Carter did not expect to find it here, but on the other hand he had observed the presence of numerous objects —all broken—which were explained by the study of the paintings, decorating the walls of the vestibule to the chamber of the sarcophagus and which show that this tomb was sacked and plundered by robbers, and that they had been restored to their original arrangement by the ruling Pharaoh-Horemheb.

The floor was literally strewn with vases, dishes and other signs of life, also utensils of blue crockery, usually broken, although the Pharaoh-Horemheb, had made an attempt to repair a great number of them. There was also found a piece of manufactured textile covered with hieroglyphic characters. The texture is in different colors and made with such scientific precision that at first sight it would be taken for painting on cloth.

But of all these discoveries the most interesting, without doubt, is the chariot of which we have already spoken.

Only the body is preserved in a perfect state and the framework—in wood —is covered by a sort of papier-maché made from papyrus; this is covered by a coating of stucco which has been sculptured on the exterior and on the interior. In order to represent these scenes of assumed battles waged by Thotmes IV in Assyria, the art of these sculptors is a composition in relief with the figures perfectly and delicately finished; the details are very crowded; and the figures represent Syrians, without doubt captives being brought to Thebes.

In a word the chariot is one of the most beautiful specimens of art and industry which has been transmitted to us from the ancient Egyptians.

On one side the explorers have also picked up a leather gauntlet, actually

the one with which Thotmes IV. protected his hand and the wrist-band which held the reins of his chargers. The importance of the discovery was not in the chariot itself, which resembles all the chariots portrayed in the Egyptian frescoes, but in its rarity and also because it is a natural document (*un document naturaliste*). It is not only an object of culture but a common accessory to the ordinary life of man; especially the presence of this chariot in the midst of so many religious or symbolic objects, is a derogation not common to the usages of the ancient Egyptians.

Mr. Gayet, the discoverer of Antinoë . . . explains this singular circumstance in the following manner:

Thotmes IV. had to fight to defend his kingdom and having been victorious he saw in it the blessed intervention of the gods. From the elevated position which this chariot afforded the Pharaoh directed the combats and having been to this trouble, Thotmes IV wished also to have the honor and therefore he had himself accompanied on the supreme voyage by this palpable witness of the victories which he had gained.

On a page of excellent literature colored like the Orient which it describes, Mr. Gayet says:

Before this worm-eaten and broken chariot all the past is revived with the intense distinctness which those things that have been in actual service awake. This chariot has rolled from the boundary of Mesopotamia to the banks of the Euphrates and to the farthest end of Ethiopia; it has passed over corpses; it has been followed by the cortegés of Syrian Princes, and Libyan captives.

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*The regularity of the old walls is broken by large heaps of rubbish which mark the position of the city gates. The stone pavement was discovered worn into deep ruts by the chariot wheels.—P. V. N. Meyers.*

## CHARIOTS OF EGYPT AND NINEVEH

BY A. PORTER REX

The purposed records left by ancient kings
Appeal less strongly to the heart than brain;
"I, Aschur-bani-pal, while I did reign
Perfected this and planned still greater things."
They have not died, these men who speak their will
And state its measure of accomplishment,
But what of those unknown whose lives were spent
Their rulers' dreams of greatness to fulfill?
We calmly trace a king's entablature,
But a keen thrill of vital kinship feel
Where through the city gate the chariot wheel
Has carved convincingly, ungraced but sure,
A record of that richly human past—
Full-blooded life—by death effaced at last.

# EDITORIAL NOTES

**ASIA:**—BABYLONIA: A school room dating back to the time of Hammurabi has been discovered recently in Sippara, by Dr. Vincent Scheil. The school was in a house whose walls are about 10 feet high, and it contained 7 rooms, in which there were numerous clay tablets and statuettes. One of the tablets bore the inscription: "He who distinguishes himself in the school of writing will shine even as the Sun."

These tablets contain hymns in the oldest Sumerian language, meteorological lists, primers, dictionaries, problems in arithmetic, contracts, etc. Some of them were evidently used for text books and others were exercises which had been done by the class. There are a number of cases where the pupils have evidently made a mistake and erased their work by smoothing the clay with their stylus. The tablets which were evidently used as text books are beautifully inscribed. These contain exercises in grammar, declensions, conjugations, short sentences, judicial and business phrases, geometrical problems and tables of weights and measures.

PALESTINE:—In a recent issue of the *Sunday School Times* Prof. Herman V. Hilprecht gives an account of the results of the excavations carried on since June, 1902, under the direction of Mr. R. A. S. Macalister, at the site of Biblical Gezer. The mound is divided into 3 prominent parts, which have been designated as the "Eastern Hill," the "Central Valley" and the "Western Hill."

The excavated portion of the *debris* on the Eastern Hill had revealed signs of 4 successive occupations: (1), A pre-Semitic race, who practiced cremation; (2), an early Semitic race of the copper and early bronze age; (3 and 4), two later Semitic occupations, whose chronology could not be fixed with any degree of certainty. Though the greatest accumulation of rubbish was only 18½ feet deep, the objects found there were uniformly of high antiquity, so that it became evident that the remains of the Solomonic, the Maccabean, and later periods of culture known from various historical sources to have existed at Gezer, must be sought for in some other part of the ruins.

There are 7 different strata of remains which have been recognized in the Eastern Hill. The upper or seventh stratum represents a post-exilic period,—the age of the Ptolemies and Maccabees. The sixth is characterized by certain forms of pottery with large handles bearing royal stamps. The fifth stratum contains remains of the early Levitical occupation when the Israelites and the Canaanites dwelt together. Iron and bronze are found throughout, but more iron was used in the fifth stratum than in the seventh. Mr. Macalister thinks that iron was used in Palestine several centuries earlier than it was in Babylonia, where, according to Professor Hilprecht, it was used as early as 1000 B. C.

The fourth and third strata can only be distinguished by the superposition of the foundation of their house walls. In these strata bronze is the only metal used, but flint knives are frequently found. There are a large number of Egyptian scarabs of the middle empire and jar handles stamped with scarab-like seals, also prehistoric types of pottery. In these two strata were

found the stone pillars of the Central Valley, which belong to a remarkable Canaanite Temple, "under the floor of which were found a number of jars containing the remains of newly-born infants, apparently sacrificed by the ancient Amorite inhabitants of the city to the deity worshiped there."

The excavations, which were begun last August and are still progressing, have been very successful. They have found the altar itself, which is raised on a platform and approached by a flight of steps; the sacred area paved with slabs of Luna marble, and the inclosed wall, which forms a square 10 m. 16 long on each side and entered by a magnificent door 2 m. 35 wide.

The walls, built of blocks of marble, contain 3 bands of exquisite reliefs, of which two run on the outer, and one on the inner side. The higher outer band, made of nearly life-sized figures, represents the performance of sacrifices attended by Augustus himself and his family and officers, and other religious scenes; the lower contains what Italian architects call *nasci menti e volute*, with birds of various descriptions flying between the leaves and flowers or resting on the branches. The inner band is made of festoons of fruit and flowers mixed up with instruments of sacrifice.

Not a single block has been found *in situ*, but they lie very close to their original position. The full data of the following points has been ascertained:

1. The Ara Pacis lies at a depth of 50 m. 50 below the level of the modern city and 1 m. 90 below the present level of spring water, which makes certain the impossibility of restoring the monuments *in situ*.

2. The Ara Pacis was first plundered when the church of San Lorenzo, in Lucina, was built during the VI. Century of our era, and that it was later devastated by fire, probably in 1086.

3. About the first half of the IV Century the level of this section of the Campus Martius was raised 6 or 7 feet, and to keep the Ara Pacis dry a brick wall was built a few feet outside of the marble one.

On examining the ornamental bas-reliefs of the lower band brought to light in recent weeks, I was struck by the recurrence in more than one piece of tiny figures of lizards and frogs hiding under the leaves of the wreaths. As there seemed to be no reason for selecting these special and (in the case of the frog) not elegant specimens of animal life on such a monument as this, I thought the one plausible explanation is the following: We know that the favorite architects of the founder of the empire were named respectively Sauros and Batrachos. Pliny says that as they were denied the privilege of signing their works with their names, as was specially the case with the portico of Octavia, they hit upon the device of carving in less conspicuous spots their *armoiries parlantes*, namely, a lizard and a frog. If my surmise is correct, we have this additional advantage in connection with the Ara Pacis, that we know the name of the famous artist who signed it, and probably carved some of the pieces with their own hands.

**EUROPE:**—GREECE: The progress of archæological work in Greece during 1903 is fully reported by Dr. Arthur Stoddard Cooley in the Boston *Evening Transcript* for October 21, 1903. The following extracts from his article give a good general idea as to what has been accomplished during the past year:

Considerable progress has been made in the restoration of the Stadion at Athens: all the seats on the left are completed and a large part of those on the right. Of glistening Pentelic marble and patterned after the seats of the Dionsyiac theatre, they will give back to us the Stadion of the days of Herodes Atticus and will form another conspicuous monument of the love felt by the modern Greeks of wealth for their country's capital. For, as is well known, the funds to complete this restoration were supplied by the late Mr. Averoff, a Greek of Alexandria.

At Athens, the Parthenon is now free from its scaffolding for the first time in

a number of years. The proposed restoration of the great west door of the temple has been abandoned, temporarily let us hope. Indeed one of the questions proposed for the Archæological Congress, which will begin its sessions by a meeting in the Parthenon in April, 1905, is, In what spirit and to what extent is it desirable to restore ancient monuments, especially the Parthenon? Access to the west pediment for nearer examination of the frieze is afforded by the spiral stairway of the Turkish minaret and a light wooden bridge.

The Erechtheion is now taking its turn, and is half concealed by a massive scaffolding. Considerable has been done already in restoring the north porch and setting up the remains of the half-columns of the west end, but Mr. Philios, the ephor in charge of the Acropolis, informed me that the whole work might occupy 2 years. Dangerous portions of the north wall of the Acropolis have been removed, but the work of repairing it seemed at a standstill.

In the National Museum every visitor goes to see the splendid bronze from Antikythera [See RECORDS OF THE PAST, July, 1903], which many think represents Paris holding the Apple of Discord before the three goddesses. It stands in the same room with the beautiful Themis from Rhamnous. It is a shame to hide these statues behind the screen, forming a background for the bronze. In the same room are to be seen the best bronzes and marbles found with the Paris in the sea, with small objects and pieces of the ship in a case.

The heads recently discovered at Ægina by Professor Furtwangler are now on exhibition at this museum. The chief addition of the year, however, is the Karapanos collection of bronzes and other objects from Dodona and elsewhere, which fills a large room. In the Mycenæan room, the beautiful inlaid sword blades, of which our Museum of Fine Arts (Boston) has restorations, are now exhibited under glass bells near the Vapheio cups—a great improvement over the cases, where but one side could be seen.

The museum at Delphi was completed and dedicated in May and is quite satisfactory in its arrangement. The platform outside, from which two staircases lead up to the level of the entrance, is ornamented by a fine sarcophagus. Opposite the door is the archaic bronze charioteer, and just inside a fine bust of Syngros, the donor of the museum, presented by the French Government which conducted the excavation of Delphi through its school at Athens. This bust is flanked by marble tablets descriptive of the excavations and the museum. In the south wing of the museum are the sculptures from the treasury of Knidos and the sphinx on a column erected by the Naxians, with fine restorations of these in *staff*. The archaic statues called Kleobis and Biton stand guard on either side of a doorway. In this part of the museum are also marble fragments from the old Apollo Temple, the copy of the "Navel of the Earth," the metopes of the Athenian treasury and the famous Hymn to Apollo. Among the objects in the northern part of the museum are the Pydna monument, the Three Graces on a flowery column, and various statues. There is ample room for everything and the walls are delicately and effectively tinted.

Outside the museum some repairs and restorations are being made along the Sacred Way, and a little more work has been done at Kastalia and near the 5 temples of the Marmaria, but the track and cars have been taken to Delos, where the French are now continuing the excavation of the other famous Apollo sanctuary.

The museum at Olympia, also a gift of Mr. Syngros, has been renovated and the objects in the corridor rooms, formerly laid on rough boxes or on the floor, have been properly arranged and set up. Especially notable is the large collection of statues of emperors and of the family of Herodes Atticus from the Exedra, and the case of bronzes in the first room to the left, as one enters. The Hermes of Praxiteles is no longer visible from the main hall, a wall having been built so as to conceal the statue, and, as it were, give it a separate shrine. Outside between the museum and the hill where stands the large hotel a neat house has been built for the curator of the museum and the guards.

The Dutch excavations on the hill Aspis at Argos have thrown considerable light on the topography of the ancient town. At Mycenæ we found a force of men and carts clearing away the earth thrown out in the excavations of Echliemann and exposing to view more of the outer wall of the citadel. At Epidauros, where a small force is kept at work, a building north of the abortion or hospital ward was being excavated. Perhaps the most notable find in Greece since the summer of 1902 has been the tomb of the Macedonian dead, discovered near Chasronela by Dr. Soteriades, most important for the topography of the battle in 338 B. C. Near by, at Orchomenos, Furtwangler and Bulle have discovered the remains of a large Mycenæan palace and many graves of different epochs with interesting contents.

At Corinth some work was done by Dr. Heermance, who succeeds Professor Richardson as director of our American School at Athens. The large rectangular basin of Peirene was cleared entirely of stones and various capitals found in the excavation were collected in the west apse of the court. A workman discovered in several chambers, under the ledge of rock, paintings of fishes on the stucco of the walls, a further testimony, if one were needed, to the use of these chambers as water basins. Much clearing up was done in other places, plans on a scale of 1.100 are being prepared, and a general description of the excavations to date is to be published. A considerable area was cleared southwest of the Apollo Temple and just beyond the west end of the old Greek stoa discovered last year. It can not yet be determined whether the walls found here are remains of buildings inside the agora or on a terrace of natural rock just outside. Some more digging was done near the theatre, which may have been smaller than has been supposed, and here fragments of a gigantomachia, a decorative frieze in high relief of Roman times, were found.

CRETE: The foundation stone of a Museum has just been laid in Candia, Crete. It is very fortunate for the Cretans that they have this Museum so that in the future they can keep on the Island, the valuable antiquities which are being unearthed.

ITALY:—In a recent issue of the London *Athenæum*, Professor Lanciani gives a full account of the latest discoveries made in the excavation on the site of the Ara Pacis.

The second and first strata were occupied "by an aboriginal non-Semitic race, small in size, and seemingly unacquainted with metals. What was learned about their existence was mostly derived from the cremated remains of human bodies discovered in burial caves, which, during the first period of occupation had been used as troglodite dwellings, artificially cut in the natural rock of the Eastern Hill-top. Rude flint and bone implements and very roughly made, porous pottery are characteristic of these earliest traces of inhabitants in Palestine. This discovery of the remains of a neolithic race hitherto unknown in Palestine is in itself of the greatest importance. It is doubly so in view of the manner in which it buried its dead. It has now been proved conclusively that the earliest form of disposing of the dead was the same in Babylonia, Palestine, and Egypt; namely by cremation. * * *

Among the more striking results submitted by the English explorer, apart from the general outline of his work given above, we mention "a remarkable series of correspondences, both in general and in detail, which have been established between the Biblical history of the site, and the history deduced from the buildings and objects unearthed." Or we call attention to the nature and extent of Mycenæan, Egyptian, and Babylonian influences on Palentinian culture, as demonstrated by the large number of scarabs and amulets, seal-cylinders and weights, statuettes, and other smaller objects, the fragments of 2 inscribed Egyptian funerary stelæ, and a large number of representative potsherds. The ordinary weights of rough black and gray stone, recovered from all strata of the ruins, "are almost always pounder-shaped, conical, or cylindrical, with a flat base."

A very interesting series of 8 or 9 small weights in basalt was found in the earliest Jewish stratum. From the fact that they are "torpedo-shaped, beautifully turned and finished, with a flat base, and ends cut square," we readily recognize their Babylonian connection. Mr. McAlister regards it as "curious that such carefully finished weights should have no intelligible marks of quantity upon them." But by far the larger number of the hundreds of similar Babylonian weights unearthed at Nuffar and other ruins of the lower Euphrates and Tigris valleys, are uninscribed. The ancient Oriental merchants doubtless knew the scale of their weights from their regular use as well as their modern brothers, without having the amount of shekels and manas always engraved upon them.

In the Eastern Hill about 140 feet south of the Great Wall a cave was found which appeared to be a "very early and unrifled cemetery. About half of the floor was covered with ashes of burnt human bodies." In the center of the cave the bones of different individuals were heaped together in a confused mass. But along the wall there was a series of stone inclosures, which evidently contained the tombs of persons of rank. "The most interesting burial, however, consisted of a large coarse jar, placed on a paved platform, built against the wall opposite the stepped entrance." The urn inclosed a few bones of an infant buried immediately after birth. Mr. Macalister concludes from this and other evidence that these are the remains of the victim of an infant sacrifice, probably offered when the cave was first used for burial.

Another burial cave contained the remains of 15 inhumed persons, together with a number of bronze weapons, a cow's horn and a three-legged stone fire dish for cooking. "The people buried there in all probability belonged to the Semitic pre-Israelite race occupying the city of the fourth stratum (about 2000-1500 B. C.")

The Italian Government is disturbed by the large number of her valuable antiquities which are being stolen and shipped to England and America. Their laws are very strict in this matter, but in spite of them large numbers of these statues and other historic relics are disappearing.

**NORTH AMERICA**—UNITED STATES: At Port Richmond, California, a large shell mound has been opened. This mound was originally 100 yards in diameter and 30 feet high in places. It was built in 3 terraces. Mr. C. P. William, the curator of the Golden Gate Park Memorial Museum, of San Francisco, in exploring the mound has found a number of well-preserved Indian skeletons, crude clam-shell ornaments, wampum beads, bone awls and needles, stone mortars and pestles; a bone saw, some bone tubes, a horn chisel, flint knives, paint mortars, stone charms used by medicine men, flint arrow heads, and some receptacles containing red paint. There have been superficial examinations of the mound in the past, when valuable relics have been removed. These last discoveries were made at some depth in the mound.

The discovery of a pre-historic fireplace is reported from the Bad Lands of Nebraska. It is located in Lost Dog Canyon about 70 miles north of the Nebraska line. There is a large mass of charcoal, ashes and other debris which has been buried beneath from 5 to 9 feet of soil. It is to be hoped that the Nebraska State Historical Society will make a very thorough examination of this spot to determine its probable age.

The Museum of the Iowa State Historical Department has recently come into the possession of a very large stone ax, which is probably the largest yet discovered. It weighs 31¼ pounds and is made of a stone which is not to be found in Iowa. It was dug up in Louisa County, Iowa, and has passed through several hands before reaching the State Museum.

Prof. W. K. Moorehead of Phillips Academy, Andover, Mass., is at work upon an archæological encyclopedia entitled *The Stone Age.* It will be published in November, 1905 and consists of 2 volumes of 500 pages each. It will illustrate all of the bone, stone, shell, clay and copper objects found on pre-historic sites in the United States. Several well known archæologists have consented to assist in the preparation of this reference book.

*Ancient Calendars and Constellations* is the title of a new book written by Hon. Emmeline M. Plunket. Miss Plunket has studied the calendars of many early nations and in the first part of her book deals with the Accadian Calendar, the Constellation Aries, the 11 Constellation of the Zodiac, the Median and Chinese Calendars, Indian Astronomy, etc. The second part contains a series of diagrams from a processional globe to which have been added a series of notes, to elucidate chronologied problems and gives explanations of ancient myths.

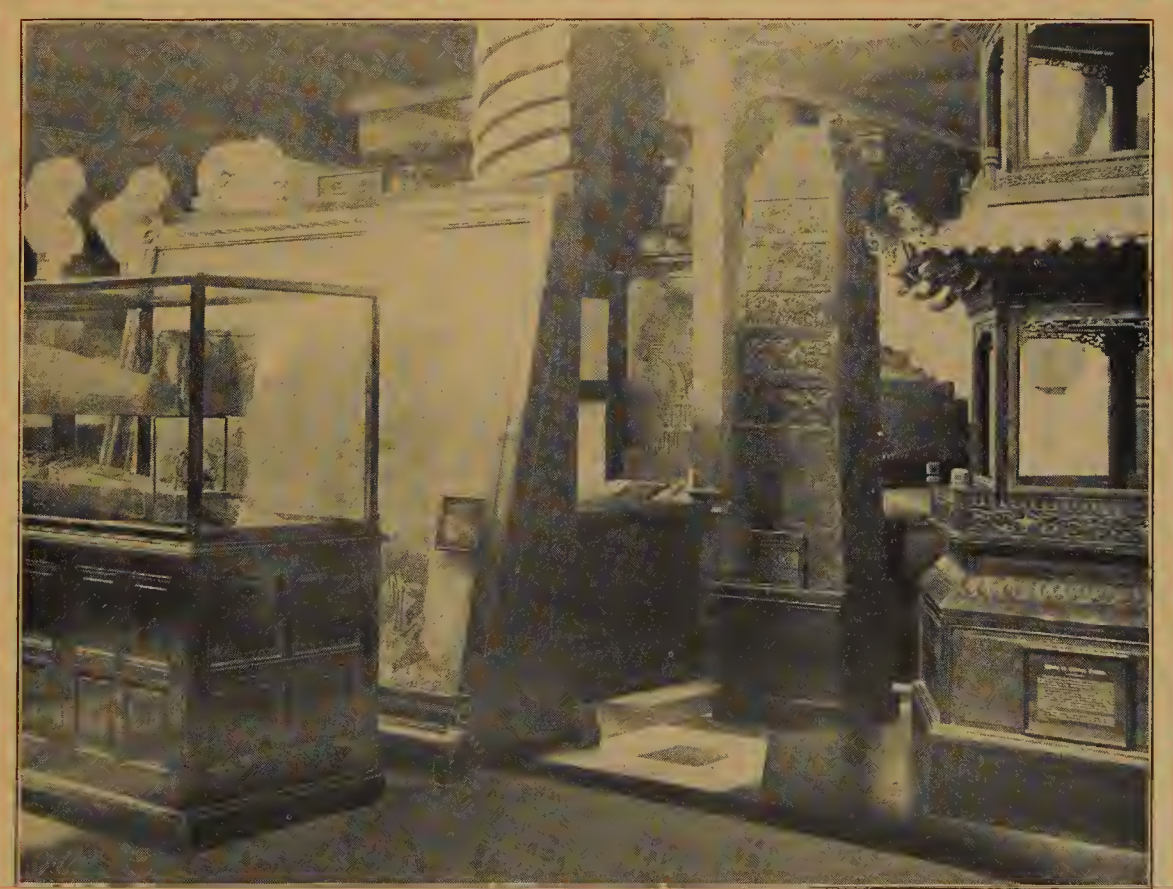
Deeply buried Indian skeletons and relics are reported as having been found in several sections of the country during November.

Five miles north of La Forte, Sullivan County, Pa., a number of valuable Indian delics have been found which points to this spot as an old Indian village. Mr. Sick reports having found a wedge-like flint with remarkably sharp edges, a war club head of stone shaped like a goose egg but larger. It has a groove around it. He also reports a large number of arrow heads. At Little Nahant, Mass., a dozen Indian skeletons have been unearthed in a spot concerning which there is no record of its ever having been used as an Indian burying ground since the settlement of the region. The skeletons were all laid facing the east as was customary with the Indians. The skulls are well shaped and in some the teeth are in a good state of preservation. In the northern part of Sioux Falls, S. D., two Indian skeletons one of a man and the other a woman are reported as having been uncovered. They were about 4 feet below the surface of the ground and in a sitting attitude. The man was decorated with a string of ornaments composed of the claws of eagles, bears, and wolves. In the man's lap there was some decayed material which looked like paper and two long arrows. The virgin soil of the prairie is said to have been undisturbed prior to the present excavations.

THE PRESERVATION OF AMERICAN ANTIQUITIES: A vigorous movement is now being made by the scientific societies of the United States to secure legislation by Congress that will at least protect the antiquities on Government property. To this end the Memorial to Congress sent out with this issue of RECORDS OF THE PAST should be signed by all interested in this important movement. We believe that such a Memorial signed by the prominent citizens of this country will be an important factor in influencing Congress in favor of such legislation. When this is accomplished we believe the several State Legislatures will enact such legislation as will preserve for all time the remains and records of the primitive peoples of the U. S. The matter is urgent and we ask the members of *Records of the Past Exploration Society* to use their utmost endeavors in securing at once as many signatures as possible to this Memorial.

# RECORDS OF THE PAST

VOLUME II DECEMBER, 1903 PART XII



Volume II

# RECORDS OF THE PAST

Part XII

REV. HENRY MASON BAUM, D. C. L.
Editor

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MR. FREDERICK BENNETT WRIGHT
Assistant Editor

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MODEL OF THE TEMPLE WAT CHANG AT BANG-KOK, SIAM

VIEW IN THE NATIONAL MUSEUM

# RECORDS OF THE PAST

VOL. II

PART XII

DECEMBER, 1903


## ORIENTAL AND CLASSICAL ARCHAEOLOGY IN THE UNITED STATES NATIONAL MUSEUM


BY DR. I. M. CASANOWICZ, U. S. NATIONAL MUSEUM


THE COLLECTION of Oriental and Classical Antiquities at the United States National Museum is officially divided into the "Division of Historic Archæology" and the "Division of Historic Religions." The qualification "historic" is to limit the collection to those peoples who played a part in the history and progress of civilization. Both divisions form a part of the "Department of Anthropology."

The Division of Historic Archæology occupies the 2 alcoves west of the Rotunda. The visitor's eye is attracted to them by the colossal composite figures of the human-headed winged lion and bull which guard the entrance to these compartments, as they ever guarded the entrances to the palaces of the Assyrian Kings, and which are connected by some scholars with the composite beings seen by the Prophet Ezekiel in his vision of the "chariot," [*Ezekiel* 1]; compare also the "four living creatures" in *Revelation* v., 14; vi., 1. Inside are installed the collections of Biblical, Assyro-Babylonian, Egyptian and Hittite antiquities.

The collection of Biblical antiquities includes a large relief map, with some specimens of the geology and flora of Palestine; casts of the monuments found on Palestinian soil, as the Moabite stone, the Siloam inscription [See RECORDS OF THE PAST, vol. 1, p. 61 and p. 32], etc.; a collection of the musical instru-

ments mentioned in the Bible; a series of coins of Bible lands; a collection of the precious stones mentioned in the Bible, and objects belonging to modern life in the Orient, which serve to explain and illustrate many allusions in the Bible, such as goatskin waterbag, millstones, sling, *Kohl,* etc. The Bible itself is represented by a collection of facsimiles of manuscripts, and old and rare editions of the original texts, as well as by copies of the most important ancient and modern translations.

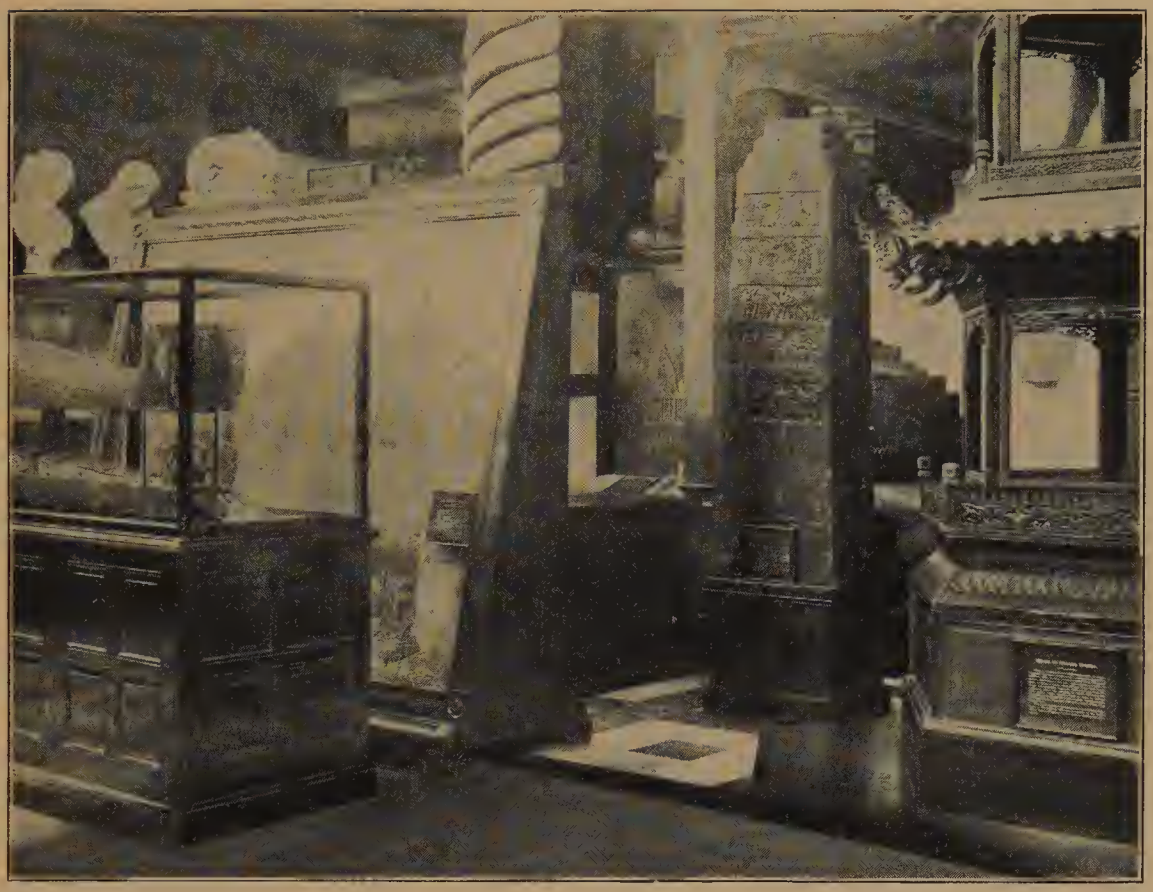
Of the Assyro-Babylonian objects may be mentioned, besides the composite figures referred to above, the two figures of the ancient architect-king Gudea from Tellô, the Black Obelisk of Shalmaneser II, the stele of Sargon II, found in Cyprus, Deluge tablets, a model of a Temple Tower of Babel, made at the Museum after the descriptions of the Temple Tower of Borsippa, and a series of bas-reliefs, representing winged figures before the "sacred tree," scenes from life of Ashurbanipal, Assyrian warriors, etc. Important for the study of the art, customs and religious ideas and practices of Mesopotamia is a collection of about 100 original seals and upward of 300 casts of such, varying in date from about 4000 B. C. down to the Persian period.

Among the Egyptian antiquities, those connected with the funeral rites obviously form the principal part. There is a stately mummy well preserved in its original case. There are 6 finely wrought coffins, presented by the Egyptian Government, besides funerary boxes, jars, scarabæi, *uthabto* figurines, a series of squeezes from the tomb of Taia; *facsimiles* of Ani's and Anhai's papyri of the *Book of the Dead,* etc. But also other objects, bearing on the religion, culture and history of the land of the Pharohs are not lacking. There are specimens of the geology and flora of Egypt, casts of the statues and busts of some of the chief divinities and of the great historic rulers, such as Chephren, the builder of the second largest pyramid; Amenophis II, Seti and his great son, Rameses II ; Tirhakah and others. A small collection of Græco-Egyptian papyri afford a glimpse into the life and history of Egypt during the Græco-Roman period. There are also the replicas of the *Rosetta Stone* [see RECORDS OF THE PAST, Vol. I., p. 91], which gave the key to the decipherment of the hieroglyphics, and the Canopus Decree.

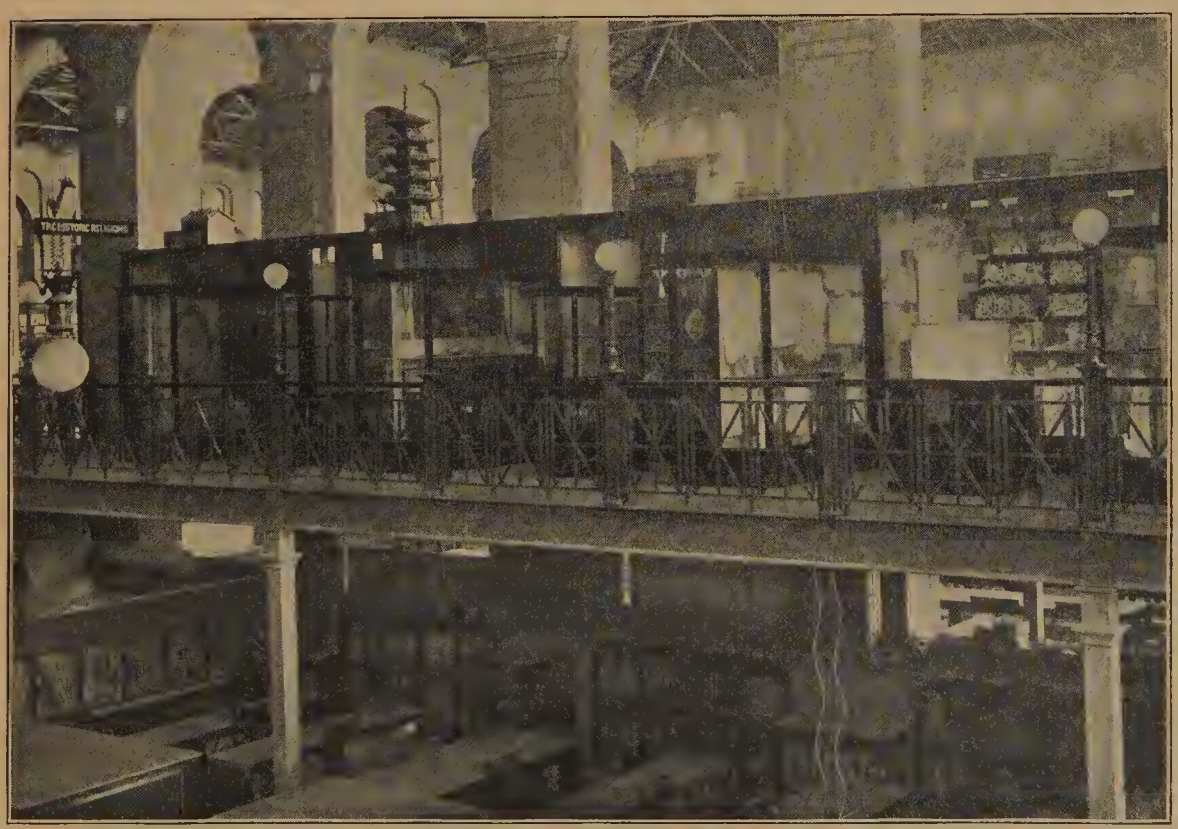
The monuments found in Asia Minor and North Syria, and in part attributed to the Hittites, include, besides various divinities, composite figures, hunting scenes, etc., the colossal statue of the god Hadad and the torso of the statute of Panammu II., both of which bear "old Aramæan" inscriptions.

The Division of Historic Archæology includes, besides 2 casts from Persepolis, one of the ancient capitals of Persia, a rare piece of mosaic, measuring about 8 by 6 feet, and representing a lion attacking a wild ass. This was taken from the floor of a temple, the Astarte, in Carthage. Then the serpent column of Delphi, a cast of the bronze original now at Constantinople, which was dedicated by the confederate Greek cities to Apollo at Delphi after their victory over the Persian army at Platæa [476 B. C.], and is thus a relic commemorating the first struggle of the Greeks for liberty and independence.

Leaving the Division of Historic Archæology and returning to the Rotunda, two colossal images of Vishnu and Buddha which, for lack of other accommodations, are placed at the foot of the staircase, beckon the visitor to the Division of Historic Religions in the southwest gallery. Here the collections of ceremonial objects of several religions have thus far found a home in 14 large cases, besides a number of Kensington cases. The cases are built in compartments, or according to the alcove system, so that each individual



VIEW IN NATIONAL MUSEUM SHOWING BLACK OBELISK



VIEW IN NATIONAL MUSEUM

THE PENTATEUCH

MODEL OF A TOWER OF SILENCE

of a religious collection may be viewed and studied separately, without intrusion from another one.

The first 2 compartments are occupied by the collection of modern Jewish ceremonial objects. The collection is perhaps unrivalled in completeness and in artistic and historical value. It comprises curtains of the Holy Ark, the receptacle of the sacred scrolls, which in the Synagogue holds, in a measure, the places of the Ark of the Covenant in the Tabernacle and Temple; manuscripts of the *Torah,* or Pentateuch, which alone are used in the service of the Synagogue, written on parchment scrolls, with silver bells, breast-plates and pointers; rolls of the Book of Esther, or *Megillah* in revolving cases of wood and silver of rare workmanship; manuscripts of prayer-books, lamps, phylacteries, prayer-shawls, and other objects used in the services of the Synagogue. Then the objects used on feast days, such as the *shofar,* or horn, *lulab* and *ethrog,* etc., and especially a complete set for the semi-ritual passover meal (seder). One case is given to objects used on special occasions, such as utensils of circumcision, marriage contracts, wedding rings, a slaughtering knife, etc. Another case contains a series of embroideries and tapestries depicting Bible narrations, such as the sacrifice of Isaac, the worshipping of the Golden Calf, the fight of David and Goliath, etc.

Christianity, which by its logical and historical succession, should come next to Judaism, is at present represented in the exhibit by only 2 altars coming from an old church in Germany. The National Museum is already in possession of a large collection of objects belonging to Christian ceremonials, including some valuable icons, priests' vestments, croziers, altar coverings, chalices and other church paraphernalia of the Eastern branch of the Church, as well as of the Western, which only awaits the creation of space and facilities for its exhibition.

Mohammedanism, which is derived from Judaism and Christianity, comes next, showing a model of a mosque, manuscripts of the Koran upon their inlaid stands, mosque lamps, flags and tablets, some of the equipment of pilgrims to Mecca, and the costumes and utensils of several of the Dervish orders.

Græco-Roman religious sentiments are illustrated by a set of statues and busts of the *dei maiores,* as well as *dei minores,* and bas-reliefs, which depict mythological scenes, such as the battle of the gods with the Titans, etc. A collection of sepulchral and votive stelæs and tablets allow a glimpse into the popular religious views and practices.

Leaving this classic ground, the visitor is transferred in spirit to East Asia. There he first meets Brahmanism, which sways the millions of India. The collection comprises a set of marble images of the so-called *trimurti* gods and their suites, of the incarnations, or *avatars* of Vishnu, and some of the minor divinities. Two finely carved stone stelæ, representing Vishnu and his retinue deserve special notice. Temple utensils, as lamps, vases, covers, illustrate some of the Brahmanic religious customs and elaborate ritual. Caste-marks give opportunity for the explanation of the caste system, which plays such an important part in the religious, political and social life of India. The contemplative and ascetic element of Hinduism is illustrated by a series of models of Yogis and ascetics in various attitudes.

Buddhism, the offspring of Brahmanism, and the first religion which had the ambition to embrace all men, is represented by a rich collection, filling 2 alcoves on the gallery, while a later accession, consisting of a valuable collection, illustrating especially the Buddhism of Burmah, had to be installed in 2

COINS OF BIBLE LANDS

1. Shekel. 2. Coin of Herod Agrippa, II. 3. Coins of John Hyrcanus. 4. Coin of Alexander Jannæus (widow's mite). 5. Staters of Antioch. 6. Coin of Herod Antipas. 7. Coin of Herod Philip. 8. Coin of Cæsarea. 9. Tetradrachm of Sidon. 10. Coins of Damascus. 11. Coin of Askelon. 12. Denarii. 13 and 14. Tetradrachms of Tyre. 15. Tetradrachms of Alexander the Great. 16. Tetradrachms of Babylon. 17. Tetradrachms of Seleucus I, Nicator. 18. Stater of Tarsus. 19. Coin of Demetrius Soter. 20. Coin of Cyprus. 21. Æs of Thessalonica. 22. Coin of Thessalonica. 23. Tetradrachms of Athens. 25. Tetradrachms of Ephesus. 26. Hemidrachms of Ephesus. 27. Tetradrachm of Macedonia. 28. Child's Bank.

large cases in the Rotunda. There is any number of representations of Buddha, in bronze, stone, clam shells, and carved and lacquered wood, some of which have much art value. No less varied are the forms and attitudes. The Sakya sage can be seen in the Burmese, Sinhalese, Japanese and Thibetan conceptions of him, sitting in meditation, preaching, blessing, and reclining (entering Nirvana). The hierarchy is represented by several images of *arhats* and monks, with their outfits, such as the begging bowl, rice spoon, etc. The elaborate ritual of Buddhism is illustrated by a large collection of musical instruments, cruses, candlesticks, rosaries, sprinklers, crusers, praying-wheels, etc., while among the representations of Buddhist sacred edifices may be especially mentioned a magnificent model of the Wat Chang at Bangkok, Siam. One case is given up to the syncretistic and popular accretions to Buddhism in China and Japan. The sacred literature of Buddhism is represented by a manuscript on palm leaves and by the Siamese edition of the *Tripitaka,* presented by the King of Siam.

Another religion of Aryan origin, *viz.*, that of Zoroaster, which during the pre-Mohammedan Persian domination prevailed in the Iranian lands, and is now upheld by the small, but valiant, band of the Parsees in India and sev-

eral districts of Persia, is represented by a fire urn, which illustrates one of the most important rites of Parsee worship, namely, the keeping up of a perpetual fire in their temples; offering trays, a religious costume and a model of a Tower of Silence (*Dakhma*), which forms, as it were, the Parsee cemetery.

Shintoism, the primitive national religion of Japan, which even now contests Buddhist supremacy in that country, is represented by a collection of shrines and their contents, as the *go-hei,* mirror, etc., and some votive tablets.

A Korean sorcerer's outfit, a collection of amulets, with a collection of photographs and engravings, supplementing several of the collections, complete the exhibit of religious ceremonial objects in its present status.

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## FIGURES CARVED DURING THE PALAEOLITHIC EPOCH ON THE WALLS OF THE GROTTO AT BERNIFAL, DORDOGNE

BY MM. DR. CAPITAN, L'ABBE BREUIL AND PEYRONY

IT IS known that few grottos have yet been found whose walls have been engraved or painted during the Palæolithic Epoch. Only 7 have been discovered: that at Altamira in Spain, the grotto of Chabot on the borders of the Ardéche, that at Marsoulas (Haute-Garonne), that at Pair-non-Pair, near Bordeaux, and the 3 in the environs of Eyzies: the Mouthe, Font-de-Gaume and Combarelles.

We have already indicated here the results of our discoveries and investigations at Combarelles and at Font-de-Gaume.* We wish now to describe a new grotto, that at Bernifal, also in the environs of Eyzie, where we have discovered some carvings (26 figures divided into 12 groups) very similar to those of the nearest grotto, that at Combarelles, but with some peculiarities which we have considered worthy of attention.

### DESCRIPTION OF THE GROTTO

The grotto is composed of 3 large chambers connected by passageways. The first chamber, rather large, measures 22 m. long and 8 m. in maximum width. It communicates by a narrow passageway scarcely 1 m. wide with a second chamber about 5 m. wide by 12 m. long and 1.8 m. high. Finally, a passage 3 m. wide by 15 m. long leads into the last chamber 6 m. wide and about 20 m. long. At the two ends of the grotto the passages scarcely separate the earth, which extends in both directions.

The ceiling is decorated with beautiful stalactites. The walls are particularly wet and covered with a stalagmitic encrustation, usually thick, except in the second chamber. Naturally this grotto is extremely obscure, which is the rule with most of the engraved grottoes.

### DESCRIPTION OF THE FIGURES

The figures are all grouped in the second chamber, where the stalagmitic encrustation appears least thick. They are engraved quite deeply on the calcareous walls and cover over a bed of thin but very hard stalagmite. They are

*Revue de l' Ecole d' Anthropology*, January and July, 1902.

under from 0.5 m. to 1.50 m. of actual soil. The figures, which it was possible to distinguish, beginning at the left, are the following:

1. Forty ms. from the entrance, 2 triangular forms of numerous parallel lines impinging on one another and effecting the disposition shown in Fig. 1.* Each is about 20 cm. long.

2. A vague and indeterminable outline (possibly the back of an animal).

3. A pretty head on the left, with the starting of horns well indicated. The upper part is lost under the stalactite. It seems that it represents the head of a reindeer.

4. An incomplete outline possibly representing the head and back of an elephant.

5. A new triangular design which follows the preceding.

6. A figure of triangular shape, the blunt angles are formed by a continuous line and seem to conceal a triangular design by a multitude of lines [Fig. 2]. If then one passes to the other side of this same chamber, almost exactly opposite these last figures, on the wall of a narrow recess (*diverticule*) he finds:—

7. A panel bearing 4 figures. The first depicting a small horse, running, with large head, straight mane, smooth tail, which is attached rather high. This animal calls vividly to mind the kiang (Tartarian horse) now to be found in the actual wild horse of the Mongolian desert, the kertag or Tarpan (*equus Prejwalski*). Behind this horse is a small head which could be called that of a horse or an izard. Above is a rather large triangular design in which a small horse can be seen [Fig. 3] on the right and below, drawn in red ochre or manganese. The technique of the drawing of this animal is curious enough, as can be seen, and is different from that of the other animals.

8. A little further to the right of this panel, on turning towards the entrance and on the wall of another slightly larger recess, one sees to the right the body of a horse, the head of which is hard to distinguish under the stalagmite.

9. On turning toward the entrance there is to the right of the preceding a rather large panel. To the left is the outline of an elephant measuring about 90 cm. long by 70 high, in part badly covered by the stalagmite. The high curved forehead, the proboscis, the long and curved tusks are clearly indicated, the tail is well drawn, the feet are seen under the very hard stalagmite, as well as the lines indicating the hairs under the stomach. Two large triangular signs are seen on the head and body of the animal.

After him comes a very distinct mammoth, measuring 80 cm. long by 45 cm. high [Fig. 4]. The curved forehead, eye, proboscis and tail are well engraved. The large feet, ending in a mushroom shape, are very distinct, as well as the multiple strokes and lines running in different directions, which indicate the hairs under the stomach of the animal, on each side of the feet and on the inner curve of the proboscis. Two triangular designs are seen on his body. Behind him 2 triangular designs are completely superposed.

10. Under the last design, at the very bottom, the head of a well-drawn animal is seen to the right. Unfortunately the head is covered by the stalagmite. Facing and opposite it, a bison is very well characterized by his boss, his dewlap, which is very much developed, his large head and curved horns. He measures 54 cm. long and 33 high. [Fig. 5.]

* This figure, as well as the following have been executed after our sketch and tracings. At Bernifal, as in our other grottoes, we have ourselves made reliefs, designs and tracings, to the accuracy of which we can certify.

FIG. 1

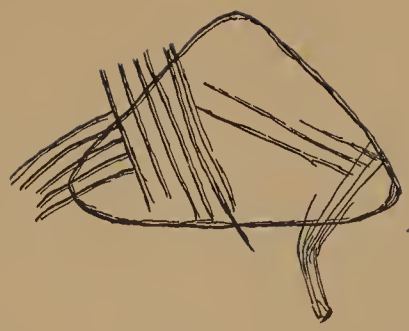

FIG. 2

FIG. 3

FIG. 4

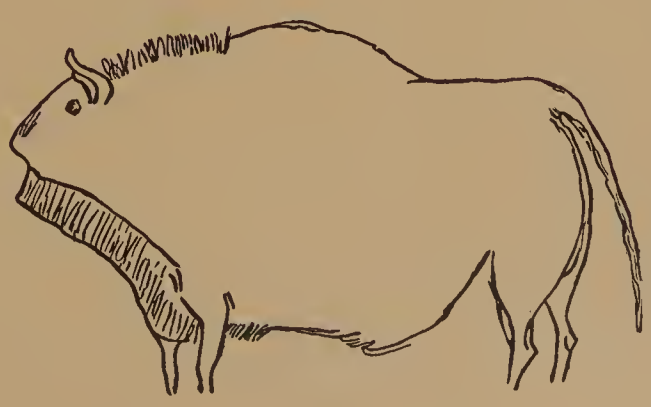

FIG. 5

DRAWINGS ON THE WALLS OF THE GROTTO AT BERNIFAL

11. At the end a pretty head of an antelope is seen a little to the right. It bears behind the ear and in the eye touches of black paint. His large nose and the disposition of his horns give him the appearance of the antelope (saiga) which is not met with now except on the steppes of northern Russia.

12. Lastly, at the other extreme end of the grotto in a very narrow recess (*diverticule*) is a small head painted in manganese, only the nose and eye of which can be seen, the stalagmite covering the rest. Also, underneath this head, 4 black lines can be seen, and back of it 2 large lines also painted in black. Approaching each is a small line also in black.

Such are the figures which can be recognized very clearly on the walls of the grotto of Bernifal. There exists some other lines which we have not been able to identify. Elsewhere the stalagmites cover a large number of the figures, and have certainly masked a great many of them. Such as these are, they form an interesting collection of 26 different figures, arranged in 12 groups.

Finally, the grotto of Bernifal brings a new contribution to the interesting question of the origin of decorative art. The animals which are here figured have the same characteristics as those of similar grottoes. The 2 mammoths present the typical aspect already noted: the form of the forehead and the long, flowing hair under the stomach, which are characteristic of that species.

The small horses are also very typical and seem to correspond to their animal neighbor, the kiang [Tartarian horse] or kertag, the wild horse still existing in the steppes of Mongolia. The large bison shows clearly enough the characteristics of his species. One figure seems to represent an antelope, another an izard [wild goat of the Pyrenees]. The drawing of a head with a large nose could be attributed to the saiga (antelope). Comparison with photographs of these specimens renders the legitimacy of these conclusions more certain. But that which constitutes a new point in the decoration of these grottoes is the series of triangular figures which can be seen represented a dozen times on the walls of our grotto. This figure is already known. At Combarelles we have engraved designs on each side of a small *cervide;* at Font-de-Gaume we have them usually in relief, and among others painted on the body of a large bison; but at Bernifal there exists a whole series of these curious images with such precise details that they could be accounted for only on the design above mentioned; and, finally, an undescribed figure, which follows the preceding, effects of a rather definite oval form [Fig. 2]. It should be noted that these figures are clearly traced on the two representations of elephants.

What can be the significance of these figures which have been noted in such great numbers at Bernifal? Is it a sign more or less symbolical, like those found on the bone graves of the Magdalènian hearths or the representation of a hut? In favor of the latter hypothesis, this oval figure can be invoked, which ends the series of triangular ones. In this case it could represent a hut covered with skins (as exemplified by those of Turkestan), or the earth huts of the modern Esquimos. As to the triangular figures, they seem to represent a veritable framework, always with a central piece and lateral timbers. These may be called the "sign of the house." Or, if this interpretation, which is perfectly rational, is accepted, then one may ask what is the significance of these signs traced on the 2 mammoths of Bernifal, indentical with those painted on the body of the large ox of Font-de-Gaume and with those which are carved on each side of the small *cervidé* of Combarelles. In order to answer this question, an hypothesis may be advanced, deducted from

that proposed by M. Hamy to the Académie des Inscriptions, after our presentation of the painted figures of the grotto of Font-de-Gaume. M. Hamy has expressed himself thus:

I suppose that if our troglodytes have thus painted or engraved these singular animal figures, it is with the assurance that those who have drawn them, have acquired by the same, a kind of influence analogous to that which gave the white man the mastery over the Indians whose portrait he could make.

This interpretation of the learned professor of the Museum is very plausible. It agrees well with the psychology of the present savages, who probably are quite similar to the prehistoric ones.

Then applying these ideas to the interpretation of the figures representing huts which are carved on the animals, we would say first that the repetition of this particular form in different grottoes permits the supposition that he did not work the outlines of these designs at random on figures already in existence. If the tectiform signs had been carved or painted on the animals with a definite intention, a former hypothesis could be advanced: the Magdalènian would wish thus to mark the animal with his sign of ownership, as the nomad Bedouin marks, with his *wasm,* the animals which belong to him. This virtual taking possession of the image of the animal corresponds, for the troglodyte, to the actual taking possession of the animal which can be of use to him. It can also be supposed that drawing the representative sign of the hut or stable on the figure of the animal he believed to thus virtually shut it up by a sort of magic convention in the hut or stable, and thus take possession of it in a more complete form.

It may be, then, although we present these interpretations only as simple hypothesis, that the study of the grotto of Bernifal reveals to us new and interesting facts; for there are here such a large number of these figurative designs of huts which are often carved on the mammoths. The other figures of animals are equally interesting, and correspond to various species. Finally, it is equally necessary to note this fact that there are only 8 grottoes with walls engraved or painted during the Palæolithic Epoch which are actually known. Four of these are found near Eyzies in the vicinity of one another, and certainly others will be found. That there was a remarkable artistic center here is evident from the beautiful carvings and sculptures on bones, horn and ivory from the stations of Madeleine, Eyzies and Laugerie-Basse; the works of art on the walls of the caverns are here connected in an incontestable manner.

[Translated from *Revue de l' Ecole d' Anthropology* for RECORDS OF THE PAST.]

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## RECENTLY DISCOVERED INSCRIBED CAVES AT TEYJAT AND ALTAMIRA

SINCE the preceding articles by Drs. Capitan, Breuil and Peyton was written 2 important caves have been described, which contain drawings and carvings dating back to Quarternary times. As both of these are in Southwestern Europe they increase the number of such caverns from 7, as recorded there, to 9. One of these is near Teyjat, Dordogne, France, and is described by Messrs. Capitan, Breuil and Peyron in the *Revue de l'Ecole d'Anthropologie* (Paris) for October. The other is at Altamira, near Santander, Spain.

### INSCRIBED CAVE AT TEYJAT, FRANCE

The entrance to the cave at Teyjat is nearly choked with debris, the opening being only from 18 to 30 inches high. Inside the cavern broadens out to 13 feet wide and increases in height to between 6 and 10 feet. This outer passage divides into 2 branches. The one to the left is over 100 feet long, is very wet and incrusted with stalactites and stalagmites. The floor dips away from the opening so that at the further end it is 9 feet below the entrance. The right branch, on the other hand, is very dry. It is over 12 feet wide and 9 feet high. At a distance of 90 feet from the first dividing point this passage is again divided, the left branch being 50 feet long.

In this last chamber, the walls of which are largely covered with stalagmitic incrustations, there are 3 panels bearing groups of animals. Among these is a large-headed horse, which is characteristic of the drawings of these animals, as depicted in Quarternary times. There are also bison, much resembling those found at Bernifal. Near the bison there is engraved a small horse with a small head, which is entirely different from the large horse found in the preceding panel.

### INSCRIBED CAVE AT ALTAMIRA, SPAIN

The second cave, that at Altamira, near Santander, Spain, although discovered some years ago, has just been brought into prominence by the work of Messrs. Cartailhac and Breuil, who spent a month last summer examining the cave. Mr. Sautuola discovered this inscribed grotto in 1875, and published an account of it in 1880, but was unable to definitely determine the age of the drawings, as it is now possible to do with the light of other discoveries.

The main opening is 800 feet long, and from it numerous narrow galleries branch off, one of which is 150 feet long. The geological formation here is very similar to that at Dordogne. It is a limestone rock containing many caves and long passageways, which are heavily incrusted with calcarious deposits.

Throughout these chambers and galleries there are signs of past habitation. The walls are covered with drawings, which are unevenly distributed, being more numerous and better executed near the entrance. They comprise animal figures and geometrical designs, drawn in black and red. The outlines are simple and the figures small as a rule, ranging from 20 to 30 inches high. However, in some places, the drawings take the form of frescoes, which are mostly on the roof of the grotto. The innermost galleries contain peculiar drawings composed of lines and dots, apparently distributed without any significance.

There are 2 sets of drawings, the latter superposed on the earlier and of much more skilful execution. These latter are tinted with all the colors which could be obtained by mixing or superposing red and black, which seemed to be the only colors they used. One chamber has a ceiling 140 feet long by 35 feet wide, which is covered with large figures varying from 4 to 8 feet in height. The outline for these drawings was usually lightly scratched on the rock and then painted over. Considerable skill was used in selecting natural rock formations, which would add to the effectiveness of the drawing, and in places even throw it into an actual bas-relief. All the positions of the animals,

whether running, lying down or standing, are well studied and correctly drawn.

The animals depicted are the bison, horse, deer, wild boar and others still existing in the region, but there is a remarkable lack of extinct animals, such as the reindeer and mammoth, which are found in the cave drawings of France. This fact is of special significance when it is remembered that the range of the mammoth during Quarternary times did not extend into Spain south of the Pyrenees, as is shown by the absence of their remains in that region. [See RECORDS OF THE PAST for August, 1903.]

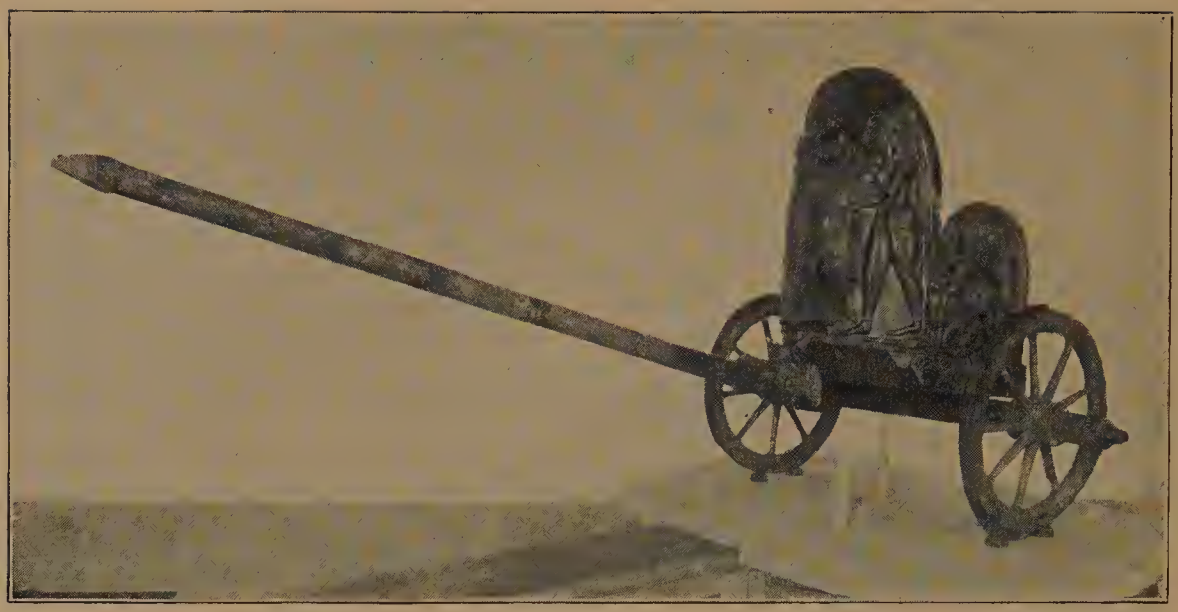
Around the animal figures on the ceiling there are numerous figures drawn in red, the significance of which is not clear. However, that there was a design in their arrangement is evident. In the first chamber there are more than 20 drawings, representing huts made from the branches of trees. In the drawings at Bernifal the representations of huts were spoken of as resembling tents covered with skins, such as those used now in Turkestan. This difference, if it really exists, is important, as showing the different mode of living in the 2 regions, the area in which the mammoth and reindeer roamed; using the warmer shelter.

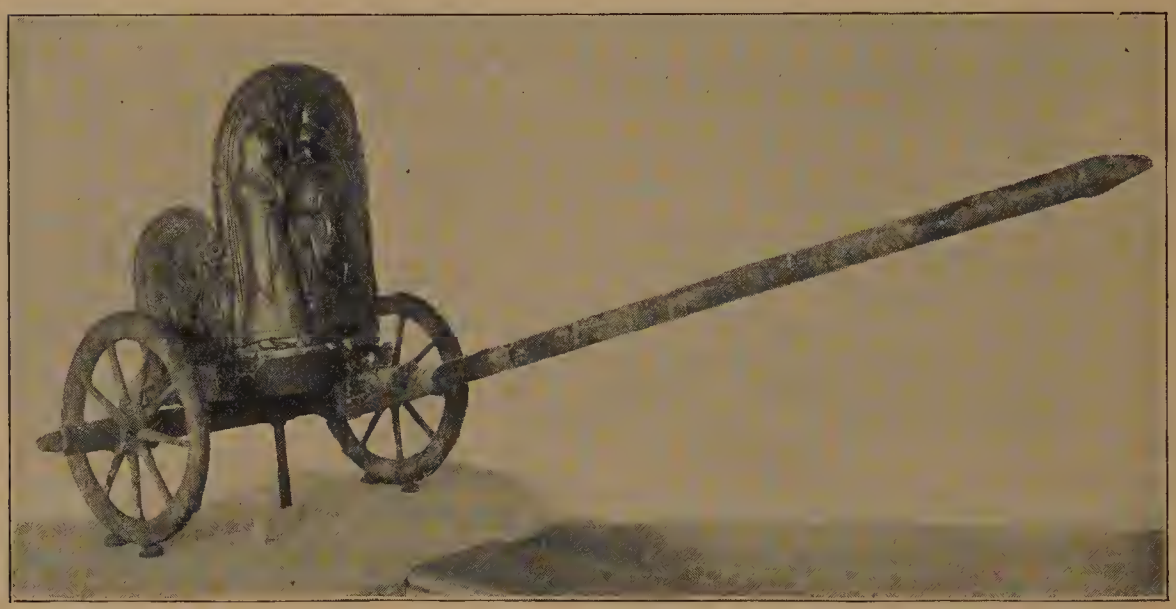
M. Salomon Reinach makes the observation that all the animals represented by these cave drawings are herbivoræ, while the carnivoræ are entirely lacking. As these were the animals which the primitive men sought when hunting, he considers that they were drawn as talismans to bring good luck in hunting and to increase the breeding of such animals. The carnivoræ were excluded from the drawings because they would bring bad luck. This view is supported by the practice of such methods by the natives of Central Australia, who at the present time draw pictures of animals on the rocks to increase their breeding. In these drawings the carnivoræ are excluded.

## AN ETRUSCAN CHARIOT

ANOTHER chapter has been added to the history of art in Italy, antedating the founding of Rome. In historic times the kingdom of the Etruscans was formed by a confederacy of 12 cities, the sites of several being still unknown. The territory was bounded on the north by the valley of the Po, on the east by the Apennines on the south by the Tiber and the west by the Mediterranean. Originally it extended beyond these limits. No definite knowledge relating to the origin and language of the Etruscans is available. Their kingdom was gradually narrowed down and finally became a part of the great Roman Empire.

The most important city was Veii, on the River Cremera, an affluent of the Tiber, about 11 miles from Rome, which became its greatest rival and ultimate victor. The beginning of hostilities dates back to the time of Romulus. In B. C. 396 after a siege of 10 years the City fell into the hands of the Romans, who extended their conquests northward until all the states of the Etruscan confederacy became a part of the Roman Empire. By the decree of the Roman Senate Veii was forbidden to be inhabited. But the massive walls of her forti-

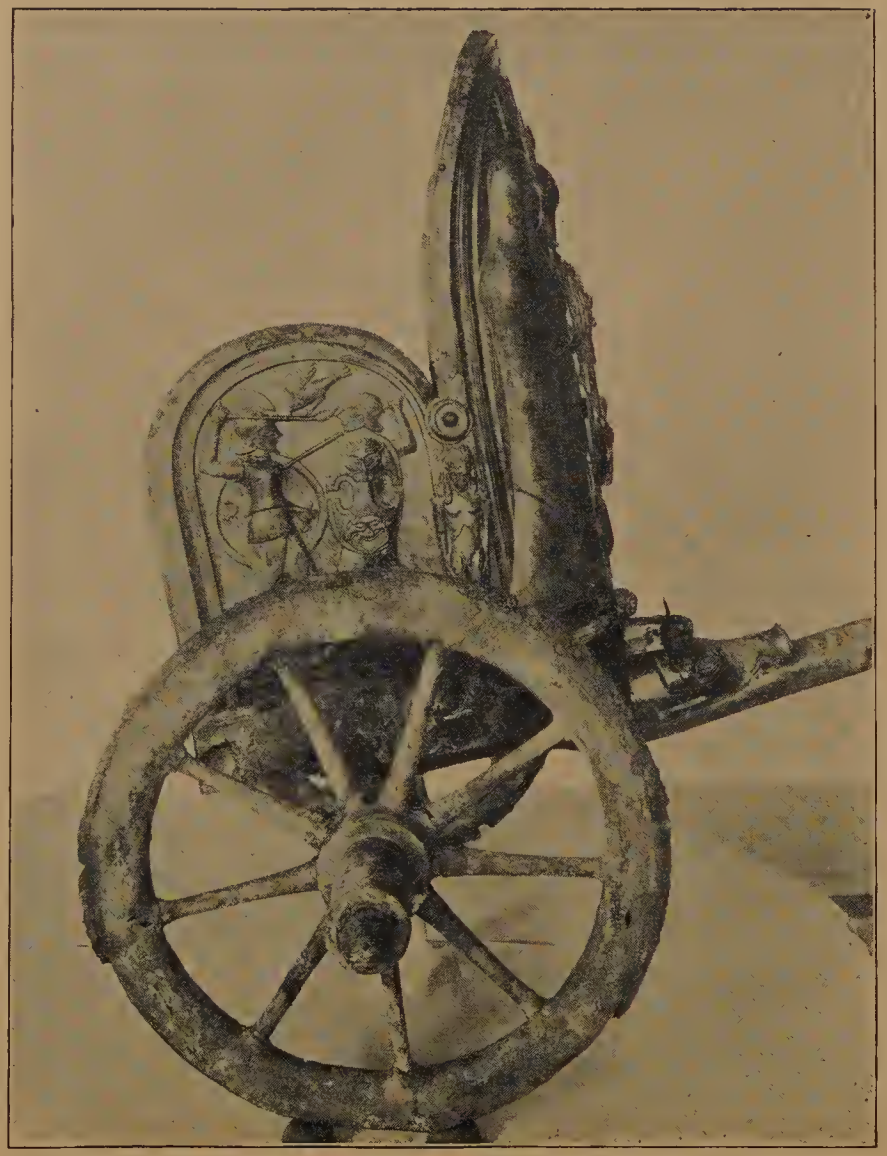




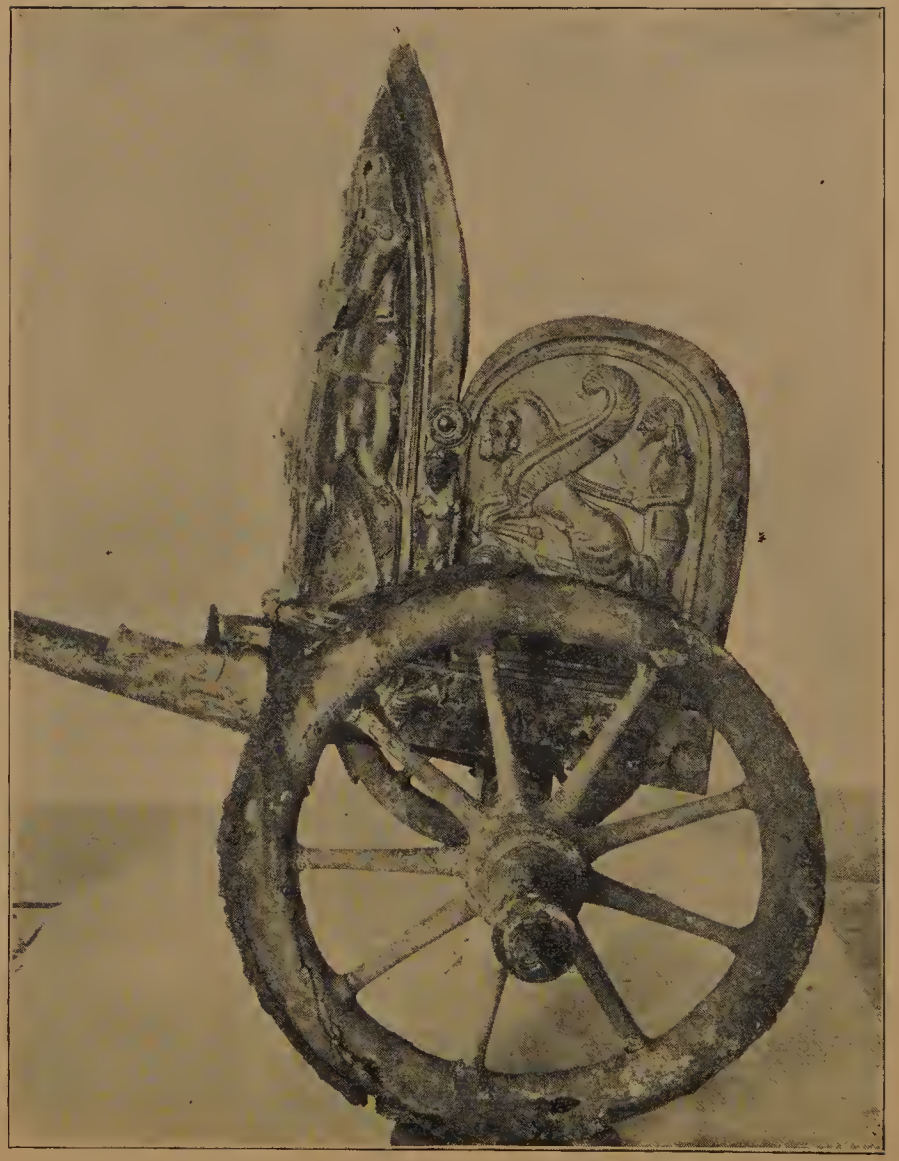
GENERAL VIEWS OF THE ETRUSCAN CHARIOT

OBJECTS FOUND IN TOMB WITH THE CHARIOT

FRONT OF THE CHARIOT



RIGHT SIDE OF CHARIOT



LEFT SIDE OF CHARIOT

fication still remain on a high cliff, and from its ruins many valuable relics of Etruscan art have been recovered.

If the Etruscans were a non-Aryan race, then their place in Italy was greater than elsewhere in Western Europe except Spain. When Rome was founded Etruscan art was celebrated throughout the ancient world. It shows a preponderating Greek influence, and the oldest alphabet yet discovered on Etruscan antiquities is known as the Chalcidian-Greek and was found on a vase from the Regulini-Galassi Tomb at Cære, which probably dates from the VIII Century B. C.

The Art-History of the Etruscans is found on the walls of the tombs of their illustrious dead and the treasures intombed with them. In these tombs which have already given so much to the world we must search for the earliest records and history of this remarkable people whose culture had reached an exalted stage in the X Century B. C.

Owing to the great bequest of the late Mr. Rogers to the Metropolitan Museum of Art in New York City and the wisdom of its Director Gen. de Cesnola, the New World is in possession of one of the most valuable antiquities of the Old World. Those able to appreciate the importance of the finest artistic creations of vanished civilizations in comparison with those of today, will not think that 250,000 franks ($48,382.00) was too much to pay for the Etruscan Chariot recently acquired by the New York Museum. The spade directed by the skilled explorer and sometimes by accident, as in this case, is daily adding to our store of knowledge of the past. We can deeply sympathize with the Italians over the loss of one of their rarest treasures yet discovered, and that by right it should have remained in Italy as a notable example of the high culture of her earliest peoples. But we must remember that it will be a perpetual reminder in the metropolis of the Western Hemisphere that the art of 2,500 years ago is worthy of our highest admiration. The antiquities of Central America, the Nile and Tigro-Euphrates valleys, Greece and Italy remind us that man did not emerge from Barbarism yesterday and that we have much to learn from the ancients.

While workmen were excavating for the foundations of a house at the base of the hill called Il Copatano, below which the road from Monte Melone leads to Norcia near the site of the ancient Etruscan City of Nurcia, 14 miles from Viterbo and 41 miles northwest from Rome, the spades of the workmen revealed the sepulchre in which was found this remarkable Etruscan chariot.

The accompanying photographs illustrate this rare treasure better than can be done by a pen description of it. The photographs show the high standard the Etruscans had reached at that time. In the tomb besides the chariot were found several objects of great interest, all of which must have belonged to some notable personage.

The size of the chariot indicates that it was for use in triumphal processions, rather than actual service in war. In its original splendor it was doubtless finely gilded and beautifully enamelled, and embellished with ivory mountings. The length of the bronze-sheathed pole, which emerges from a bronze boar's head and terminates with the head of an eagle, could only have been intended for horses of small statue. The wheels are about 2 feet in diameter. The bronze plates, which are exceedingly thin, are rich in ornamentation, but they preserve their wonderful regard for the Græco-Etruscan treatment of animal and conventional forms with great accuracy. The high reliefs and the curiously detailed decorations alike invite study and hold attention to the artist's treatment. The front of the chariot bears a shield and hel-

met as its chief motive, on one side are warriors fighting with a vanquished enemy at their feet, on the other side a conquerer in the chariot seems to override the vanquished. It would be useless to speculate as to the significance of the scheme of ornamentation until considerable study has been bestowed upon it. The placing in the tombs of valuable mementos was a very ancient custom among oriental nations, especially the Egyptians. We find the same custom obtained among the prehistoric races of the Western world.

The Metropolitan Museum of Art is to be congratulated on the accession of this remarkable art treasure. The millions of dollars left by the late Mr. Rogers is already bearing fruit.

## EARLY CHRISTIANITY AND ARCHAEOLOGY

BY THE REV. A. C. HEADLAM, B. D.

IT is sometimes difficult for us to realize how great our debt is to archæology as an aid in interpreting the *New Testament,* for from the earliest revival of learning onwards archæology has been working side by side with literature to restore to us the life of the past. Much of the result of archæological research has become part of common knowledge, and we absorb it in our classical training without realizing in the least whence it comes. Our knowledge of the worship, the religious rites, and the mythology of the ancients is largely the result of past archæological research, a research which is continually being amplified and corrected. We may illustrate this by the episode of the disturbance in the theatre at Ephesus mentioned in the Acts. Why were our ancestors content with the translation "Great is Diana of the Ephesians," and why do we desire to substitute Artemis? The gradual extension of our knowledge, and extension in which archæology has played a very considerable part,may be marked by three stages. The first confused the Greek Artemis with the Roman Diana, after the manner of the Roman poets. The second restores her individuality to the Greek Artemis. The third goes back behind the Hellenic covering, and reminds us that the Ephesian Artemis was an Oriental goddess who had been incorporated into Greek mythology, and identified with a Greek goddess. Coins are sufficient to remind us that the Ephesian goddess, with her multitude of breasts, was in her origin, to be identified, not with the perfect womanhood of the Aryan Huntress, but with the Oriental pensonification of the reproductive force in nature, and the religion of an elder race, surviving in an Hellenic dress, The scene in the theatre of Ephesus is described in language singularly correct. The whole narrative has been illustrated by the result of discoveries made on the site of Ephesus by the authorities of the British Museum. Although they were undertaken many years ago, it is only recently that the inscriptions discovered have been properly edited by Dr. Hicks for the British Museum, and no really scientiffic account of the excavation has appeared.[1]

All our inscriptions remind us of the important place occupied by the worship of Artemis in the life and trade of Ephesus. This is brought out most clearly by one text often quoted, but so opposite to our purpose that it may well be quoted again: "Not only, in this city, but everywhere,

[1] Hicks, *Greek Inscriptions in the British Museum*, Part II; Lightfoot, *Essays on Supernatural Religion*, p. 291.

temples are dedicated to the goddess and statues erected and altars consecrated to her, on account of the manifest appearances she vouchsafes." There was a month which bore her name, "Artemision," and during this month "solemn assemblies and religious festivals are held, and more especially in this our city, which is the nurse of its own Ephesian goddess." These words seem almost identical with the language of the *Acts*: "Great is Diana of the Ephesians, whom all Asia and the world worshippeth." Let us also remember that it suits well with the chronology of the Acts if we place this disturbance at Ephesus in the late spring, just during the month sacred to the goddess; "the people of the Ephesians, considering it meet that the whole of this month which bears the divine name shall be kept holy and dedicated to the goddess," has decreed to that effect.

We need not quote more; let us look at one particular point. The Acts tells us that Ephesus was *Neokoros,* or "temple-warden," of Artemis. This was an honorary title conferred on cities, or, in some cases, adopted by them, in relation to the worship of the Emperor, and also of Artemis. Curiously enough, until recent discoveries, there was no certain evidence that it was used of Ephesus in relation to Artemis, although it was known to be used in relation to Augustus. Later discoveries have repaided the defect. "The city of the Ephesians . . . . . twice temple-warden of the Augusti, according to the decrees of the Senate, and temple-warden of Artemis,"—so the City describes itself in an inscription.

The narrative in the *Acts* bristles with details, and every detail might be corroborated. There is the theatre, which was the recognized place of public meeting and the centre of the civic life of the city. There is the special stress laid on sacrilege. The words "Let it be accounted sacrilege" seems to have been a most stringent form of condemnation. There are the town-clerk, *grammateus,* as distinct a feature in Ephesus as the politarch in Thessalonica or the court of the Areopagus at Athens; the assembly, *ecclesia,* of the people, or *demus,* a survival of the old Greek democracy; the *regular assembly* being a feature particularly noted in inscriptions. Add the Asiarch, the proconsul, the Roman assizes, and we get a very complete picture introducing all the leading elements of the life of the place, as archæology has revealed them. Now our knowledge of all these details, in fact of most of the leading features of this account, is derived from inscriptions and from the discoveries made during the excavations undertaken by the British Museum at Ephesus. These excavations produced very little that museums love, and were not conducted with any real skill; but, all the same, the results were singularly important. If we put aside a love for merely dilettante archæology, if we have a really scientific desire for reconstructing the life of the ancient world, a regular and systematic exploration, undertaken with adequate means, of representative sites, great and small alike, in the Roman province of Asia, would fulfil our aims.

As has been implied above, there are very few points in which the Gospel narrative touches on anything in secular history that enables us to test it; but the writer of the third Gospel—a writer who, whatever opinion we may form about his work, has evidently some of the characteristics of a secular historian which the other Evangelists do not possess—has attempted to fix somewhat precisely the date of our Lord's birth and ministry; and in doing so has made statements round which much controversy has circled. It may be as well to state at once that in our opinion it may be quite possible to consider that S. Luke is a credible historian, and to attach a

high value to his narrative, even though in one or two such statements he may have made a mistake. He was writing 60 or 70 years after some of the events that he recorded, and at that distance of time an error on such a point might occur in a good historian. To Make therefore the accuracy of S. Luke to depend upon the result of exceedingly intricate and admittedly obscure investigations into the question of the date of Quirinius (Cyrenius) shews a great deficiency in the sense of proportions. Still less is the question of inspiration dependent on such accuracy. It is certainly not possible to say that there are no historical errors in the Bible, and to do so would imply a very mechanical theory of inspiration. But, allowing that some error or partial error may be possible in a good history, yet the value of any such work is enhanced, the greater the number of times that we find it actually correct; and if what was suspected to be a blunder is proved to be an accurate statement in S. Luke's chronology, we shall certainly think better of him and persuade others also to think better of him.

In *S. Luke* ii. 1-4 a series of statements are made which, to our imperfect knowledge, are certainly difficult. It is there stated that a decree went out from Cæsar Augustus that all the world should be enrolled; that this was the first enrolment, made when Quirinius was governing Syria; and that for it Joseph with his espoused wife had to go up to Bethlehem, his ancestral city, to be enrolled. The whole of this statement has been called a blunder or a fiction. Augustus, it is said, never made such a decree; if he had made it, it would not have had any force in the kingdom of Herod; even if there had been such an enrolment, it would have been absurd for any one to go as Joseph is represented as doing to Bethlehem for the purpose of enrolment; and that such a census could not have taken place under Quirinius, who was governor of Syria for the first time after the death of Herod. In fact, the whole story arises, it is said, from a confusion with the later census made under Quirinius when the Romans assumed the direct rule over Palestine.

Now, can archæology help us here? Within the last few years a series of papyrus documents have shown, and that certainly, that in Egypt there was held every 14 years an enrolment of the people according to households. This discovery, which we owe to the independent work of Mr. Kenyon, Dr. Wilcken, and Dr. Viereck, has been made by Professor Ramsay the basis of of a periodical census must for many reasons be dated back to the time of a very interesting investigation.[1] He maintains, first of all, that this custom Augustus, the organizer of the empire. Even while Mr. Ramsay's book was in process of production new documents were discovered substantially supporting his argument. He maintains, further, that this is only an instance of what was a universal system; and that a considerable amount of evidence, partly literary, partly derived from inscriptions, shows that it prevailed in Syria. The first enrolment, he argues, must have been for the year 9 B. C.; this it was to which S. Luke refers and thus his language speaking of it as the "first" is perfectly accurate. He goes on to give reasons which shows that the enrolment must have been made in Palestine under Herod, and that in this case it was postponed for a year or two, and probably taken in the year 6 B. C. in the early autumn. Further, political reasons, amongst others the desire to conciliate the Jews, would lead to its being taken according to families and tribes, and that this was why Joseph went to Bethlehem. He also suggests that the first rule of Quirinius in Syria, a rule of which we have evidence in inscriptions and which is generally accepted, was a special military command,

[1] *Was Christ born at Bethlehem? A Study on the Credibility of S. Luke.* By W M. Ramsay, M.A., D.C.L.

and could therefore be dated earlier than was supposed possible during the reign of Herod. We cannot here examine the validity of all this structure. We may be sometimes inclined to remember the facility with which an expert chronologer can build up a system which seems quite convincing, until it is realized that half a dozen rival systems, equally convincing, exist. But at the basis of it all—and this is the importance to us—there is a new discovery, a discovery absolutely certain so far as it goes, which puts S. Luke's statement about "the first enrolment" on a quite different basis to that on which it previously stood. The corroboration of his statement on this one point will maks us much less inclined to reject his evidence elsewhere, and certainly forbids us to adopt the attitude assumed by many critics that a statement in the New Testament must be wrong unless it can be proved to be right.

One more instance may be given of an illustration in the New Testament from the religious life of the day. In *Rev.* ii. 20 we read: "But I have this against thee, that thou sufferest the woman Jezebel, which calleth herself a prophetess; and she teacheth and seduceth My servants to commit fornication, and to eat things sacrificed to idols." Who was Jezebel? Can we get any light thrown on it from other sources? The analogy of Balaam and Balak shows that the name is used figuratively. It was some woman who called herself a prophetess, who, like the wife of Ahab, was an active promoter of false religions. Now Dr. Schürer has drawn attention to an inscription from Thyatira, which seems to imply the existence in the place of a shrine of the Eastern sibyl. Such a shrine would be a centre of divination, of the sort of magic which was always most hostile to Christianity, of the sanctified immorality which was an habitual concomitant of Oriental types of religion and of the often licentious sacrificial banquets. The presence of such a shrine, as much a home of alien and novel worship as was a Christian Church, with a vigorous and interested propaganda, would be a great danger to Christianity. In the account of Pergamum, again, great light is thrown on the words of the Revelation when we learn that it was the home of the imperial cult in the province of Asia. The Apocalyptic vision is throughout a protest against the worship of the beast, that is the "Empire and Emperor, the official state religion," which was a standing menace to Christianity. When, then, we read of the Angel of the Church in Pergamum, "I know where thou dwellest, even where Satan's throne is," the passage obtains a new meaning if we learn that the throne of Satan may be interpreted as the home of imperial worship in the province, and was perhaps the great altar the sculptures of which are now at Berlin.

There are other illustrations which might be given. One of the most hotly disputed questions in New Testament introductions is that as to the locality of the Galatia of the Epistles. Was it the Roman province, and the cities of Iconium, Derbe, and Lystra, or was it the northern district? Here the evidence of archæology is of the greatest importance; but unfortunately the epigraphic remains are at present somewhat disappointing. The Sergius Paulus of *Acts* xiii. 7 probably appears in an inscription of Soli in Cyprus.[1] The foundations of the temple of Jupiter before the city may still be traced outside the City of Lystra. An inscription from Malta gives us the somewhat unusual name, the First man "Protos," for the head of the island. The study of the names at the end of the Epistle to the Romans is very much helped by the epitaphs of imperial slaves and freedmen found in *Columbaria*. We might add more; but there would be little gain. Sufficient has been done for

[1] Lebas and Wadd. 2779; cf. Hogarth, *Devia Cypria*, p. 114.

the purpose of shewing the value of archæology. This value is double. Archæology brings us new material; but it also helps in the development of a new method. It has enabled us to understand the whole of the government of the empire, both local and imperial, in a manner which would have been quite impossible otherwise. It enables us to make out the boundaries and divisions of the provinces, the roads and cities, the local and imperial magistrates. It enables us to study the varied phases of popular religion. How little, apart from inscriptions, should we realize the extent and importance of the imperial cultus and of all the organizations of games and festivals connected with it! how little of the infinitely diverse forms of popular worship which attempted to satisfy the religious needs of the people in an age of religious transition! Archæology gives us all this material; but it also helps in the formation of a method. It teaches us to study the books of the New Testament and the writers of the early Church from the point of view of history. We may begin with some small points of geography or administration. We find that an inscription illustrates it. We find that an obscure reference to local religion becomes full of meaning when we ask how men worshipped their gods in Smyrna or Thyratira. Then as we go on we realize that in this way we may get light on more important questions. Do we want to know what S. Paul means when he talks of justification? It is not better to begin with asking what are the ideas which the word conveyed when he first wrote, rather than the scholastic interpretation which has been imposed upon it? The word "sacrifice" has been transformed by Christianity; what did it mean to the first Christians? The same methods must be pursued as are followed in less important details, and archæology may here give us some material. At any rate, a mind trained in an archæological method will be trained to interpret a book historically, and not to use it controversially without any regard to the circumstances under which it was written or the meaning that the author intended to convey.

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# EDITORIAL NOTES

**AFRICA:**—EGYPT: At a recent meeting of the Society of Biblical Archæology, Prof. Flinders Petrie read some *Notes on the XIX and XX Egyptian Dynasties*. In the reign of Merenpath, a strategy of the Libyan invaders was to enter the Delta just before the wheat harvest. The King waited for them at Persepolis, where they must cross the Nile, on account of the lack of grazing for the herds, on the west side of the river. He then anticipated the method of Narses in the slaughter of the Franks, by galling the unorganized host for 6 hours with archery, and then letting loose the swordsmen and chariots to rout the disheartened gathering. The position of the Mashana in Tunisia makes it probable that the Shaktu and Shardena were Sicilians and Sardinians. It is very possible that the Agayu were an Algerian tribe, and not Akhaians. At the close of the XIX Dynasty there is now evidence that Amen-

meses, Tausert, Siptah, and Setnekht were all children of Seti II. The theory that Rameses VI was not the son, but the grandson of Rameses III, is not necessary, and is very improbable, owing to the lack of time for so many generations. There is, then, no reason against the Ramesides, down to the XIII, being the sons of Rameses III. The reason for this strange succession was that Amenhotep, heir to the high Priest of Amen, who had been tutor to the royal family and married the heiress of Rameses VI and tolerated the rest of the family until his own son Herbor could succeed to the throne. Thus the position of the XXI Dynasty was entirely legal, and the priest-king only succeeded to the right which the royal marriage had conferred. The Libyan alliance against Rameses III was from Tunisia and Algeria, where the names of all the 8 peoples were known in classical and some of them in modern times. In the northern alliance the well-known Zakkaru may be connected with Zakro, at the east end of Crete. The purpose of the "Harris" papyrus was for the justificatory speech of Rameses III before the gods in the judgment; he states that he is passing into the underworld, and all rights and honors belong to his son. The date, Epiphi, is therefore that of his death; Thot 15 was the coronation day of his son. The interval 73 days, comprises the 70 to 72 days of embalming and mourning and the funeral. This interval between reigns is probably to be allowed for in other cases. In the I Dynasty an interregnum was 45 days, as recorded on the Palermo stone.

**EUROPE**:—FRANCE: Among recent communications to the Society of Anthropology of Paris are several by M. Emile Riviére, dealing with the engraved and painted walls of the cave of La Mouthe (Dordogne), discovered in August, 1902, representing animal figures and colored with peroxide of iron and manganese; with shell ornaments; with the discovery of a Gallo-Roman necropolis at Paris in February and March last, which he has also made the subject of a communication to the Academy of Inscriptions and Belles-Lettres, and of a second note recording subsequent finds, including an object of bone or ivory, which seems to have served the purpose of a tally; and with a leaden ring, ornamented with a heart, of the XIV Century, in comparison with a châtelaine, bearing a like ornament, of the XVIII Century. The last named communication is in illustration of a previous paper by Dr. Marcel Baudouin, on the subject of Vendean hearts. Emblems of this kind have at various times been circulated for political purposes, and their use on brooches and rings dates back to the Gallo-Roman period, if not earlier.

GREECE:—An International Congress of Archæology: It is proposed to hold an International Congress for the discussion of archæological questions in Athens at Easter, 1905. The Congress is called under a royal decree of May 14,1901, and the arrangements are in charge of a committee consisting of the Crown Prince of the Greeks, President; the Minister of Public Instruction, Alexander Sp. Roma, Vice-President; Th. Homolle, Director of the French School, Secretary; and the Ephor-General of Antiquities, the Rector of the University of Athens, the Vice-President of the Greek Archæological Society, the Mayor of Athens, and the Directors of the German, American, English, and Austrian Schools. The executive committee of this body consists of the Minister of Public Instruction, the Director of the French School, the First Secretary of the German Institute, and the Ephor-General of Antiquities. A provisional code of regulations has been prepared, containing 15 articles. Art. I provides for the meeting of the Congress at Athens and the adoption by that body of a permanent organization. Art. II

defines the object of the Congress to be the furthering of archæology by the examination and discussion of scientific or practical questions relating to this science, by the publication of reports of the Congress and of papers presented, and in general by all means which may seem opportune and effective. Art. III creates the general and executive committees already mentioned. Art. IV announces that the Crown Prince will preside over the meetings at Athens. The scientific sessions at Athens will last for 5 days, and there will be archæological excursions in continental Greece and among the islands of the Ægean, including Samos and Crete. The Congress will decide whether the sessions shall be general or special. The opening meeting will be held in the Parthenon, general meetings in the hall of the University, and special meetings, in case sections are organized, in the rooms of the Archæological Society or at the foreign Schools. Art. V provides that after the formal opening of the Congress by the Crown Prince, the Ephor-General and the directors of the foreign Schools shall report on recent discoveries in Greece and the progress of archæological science. The Congress will then perfect its organization by the election of 4 Vice-Presidents from the members who do not reside in Greece. Art. VI provides for the organization of sections, if this shall seem advisable to the Congress. Each section shall choose its President from among the non-resident members. Members from the French School will act as Secretaries. Art. VII makes French the official language of the Congress, in which its reports will be kept and its correspondence conducted. Members, however, in discussions and papers may use also Greek, German, English, or Italian. Art. VIII provides that the President and Vice-Presidents shall determine the programme for each day. Art. IX requires that no paper or speech exceed a quarter of an hour. At the end of the session speakers are requested to furnish the Secretary with brief summaries for insertion in the records. Art. X provides for the publication of the Proceedings of the Congress and the most important papers, at the expense of the Archæological Society, and their sale to members at reduced price. Art. XI provide that for membership in the Congress it is necessary to announce one's desire to the Committee and to receive a card of admission. These requests, accompanied by notice of any paper or discussion, should reach Athens before the end of December, 1904. Art. XII announces that the detailed programme and itinery of the proposed excursion will be sent to members in January, 1905, together with a non-transferable card of admission. Arts. XIII and XIV contain rules for registration, etc. Art. XV provides for the formation of a permanent organization and the determination of the next place of meeting before the adjournment. The Committee request suggestions as to questions for discussion, expressing a preference for practical subjects and those capable of prompt and precise solution. They suggest the following: (1) In what spirit and to what extent is it desirable to restore ancient monuments, especially the Parthenon? (2) Plans for the publication of an annual international bibliography of archæology, of an *Ephemeris Epigraphica Graeca,* of a comprehensive collection of Greek inscriptions in a small form and at a moderate price, of a collection of Greek Christian and Byzantine inscriptions. (3) To what extent and by what means can the study of archæology and the history of art be introduced into secondary education? What methods have been followed and what results obtained in countries where this instruction has been given? The call for the Congress is signed by Cavvadias, Ephor-General of Antiquities in Greece.

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